

FIG. 1

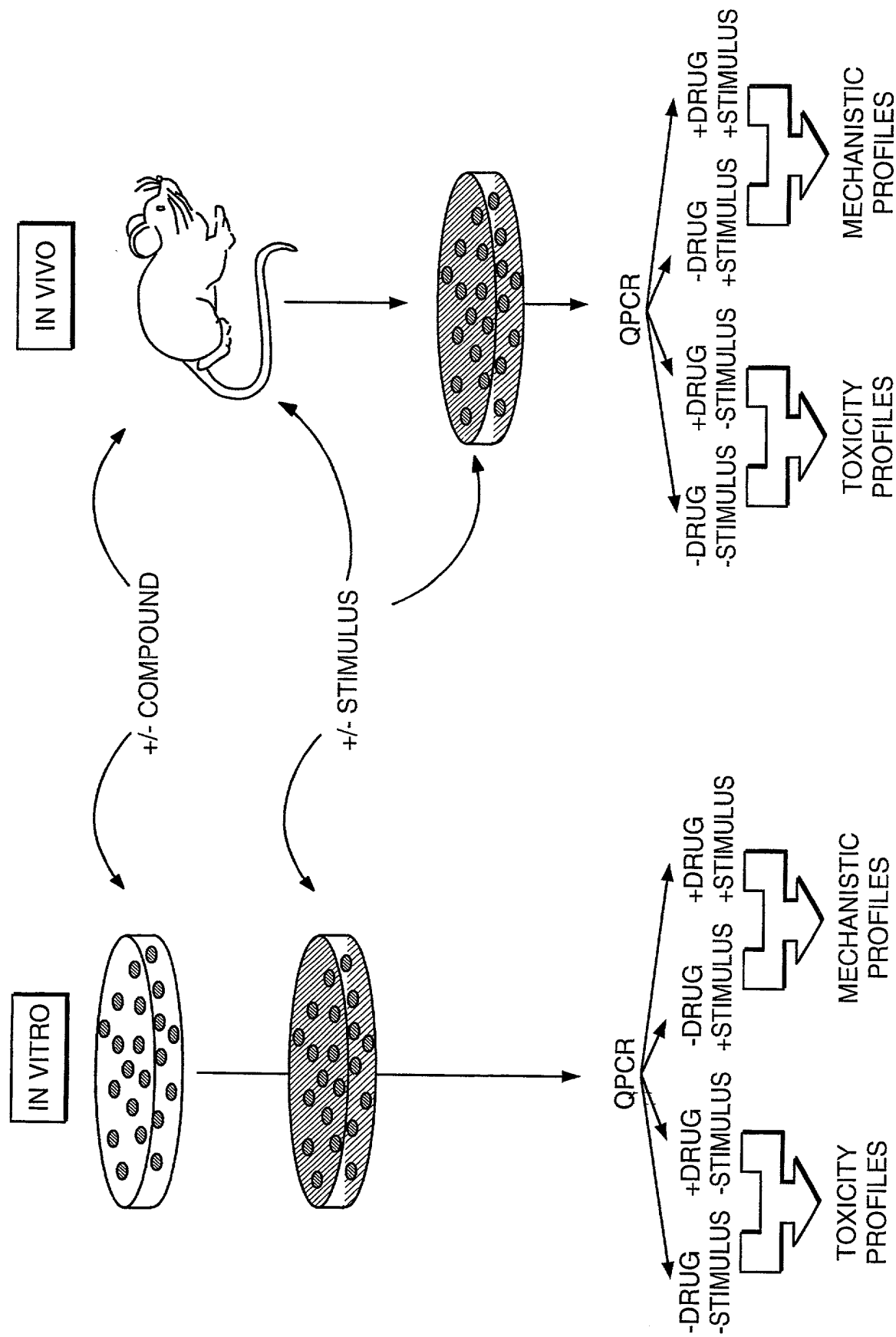


FIG. 3

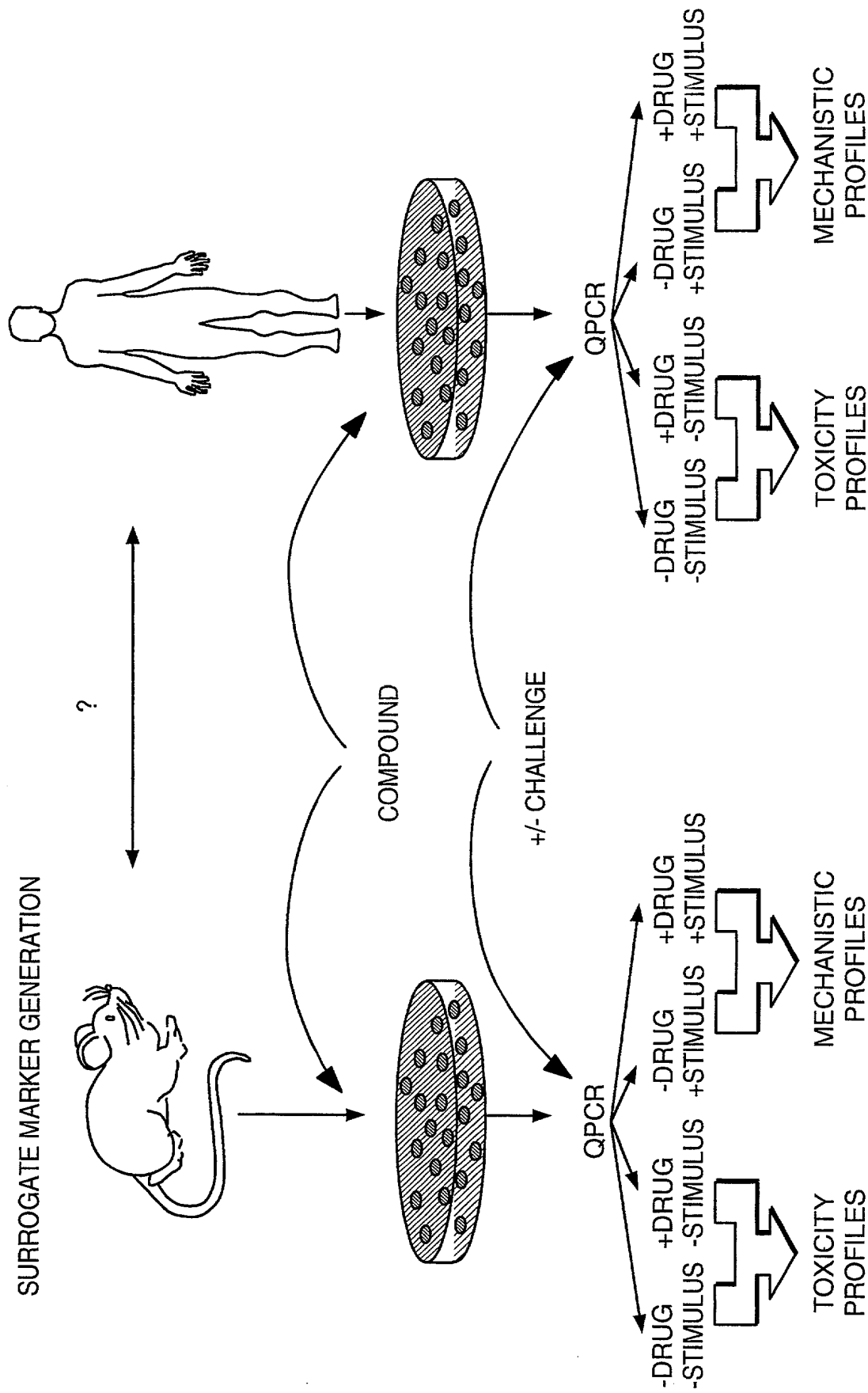
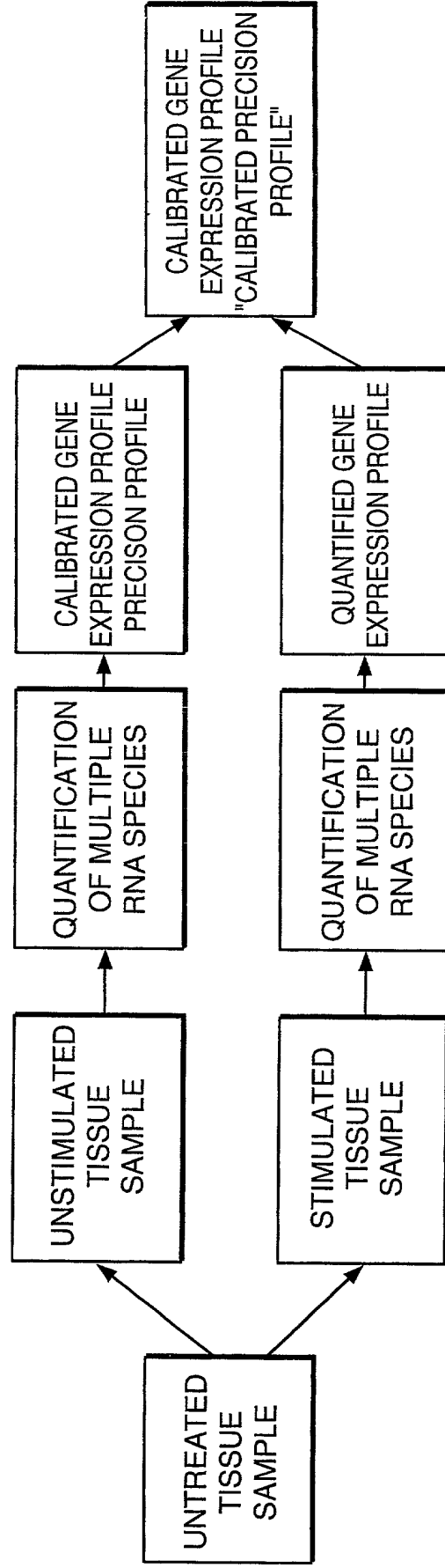


FIG. 4

PRODUCING A "CALIBRATED PRECISION PROFILE"



SOURCE PRECISION MEDICINE

FIG. 5

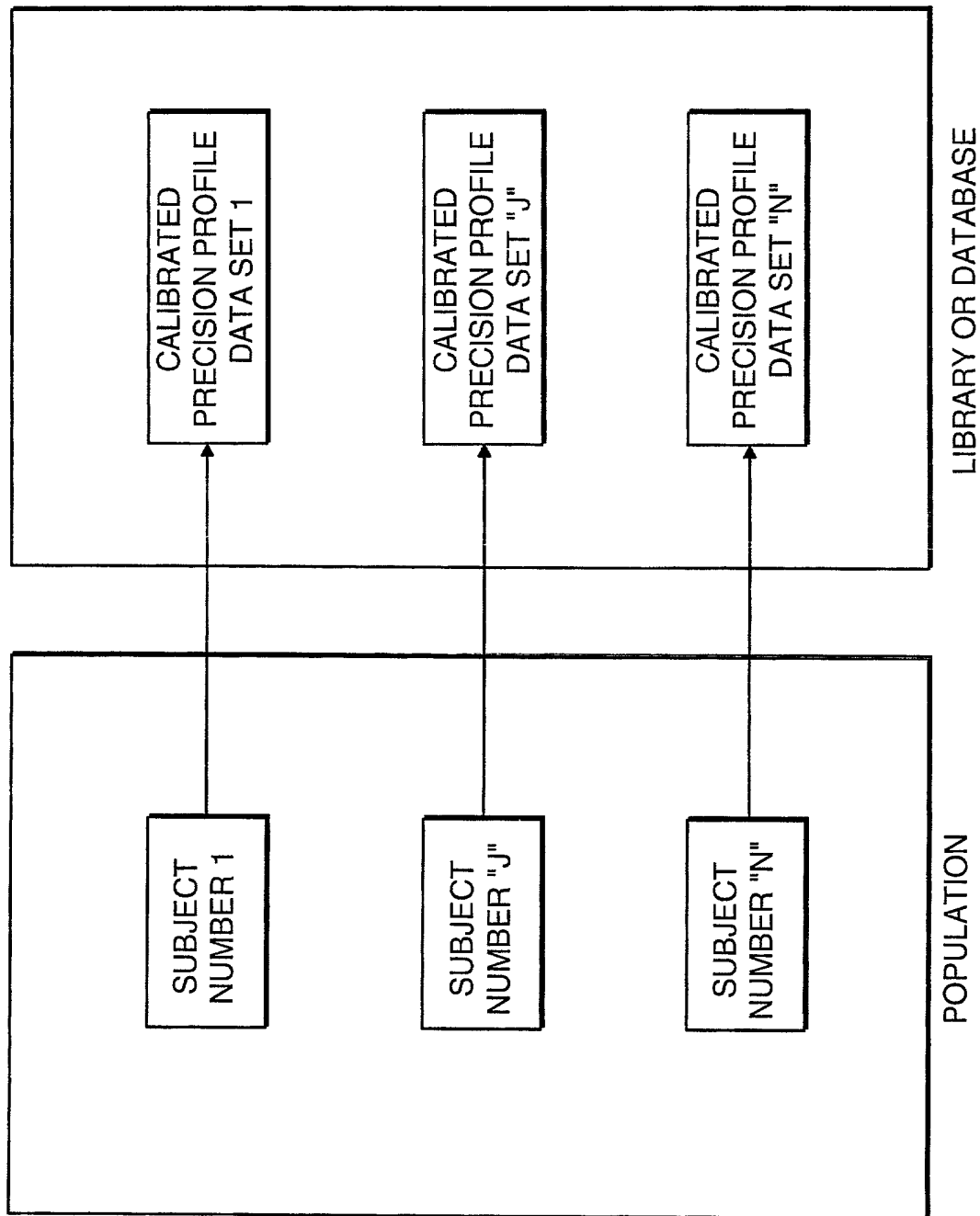
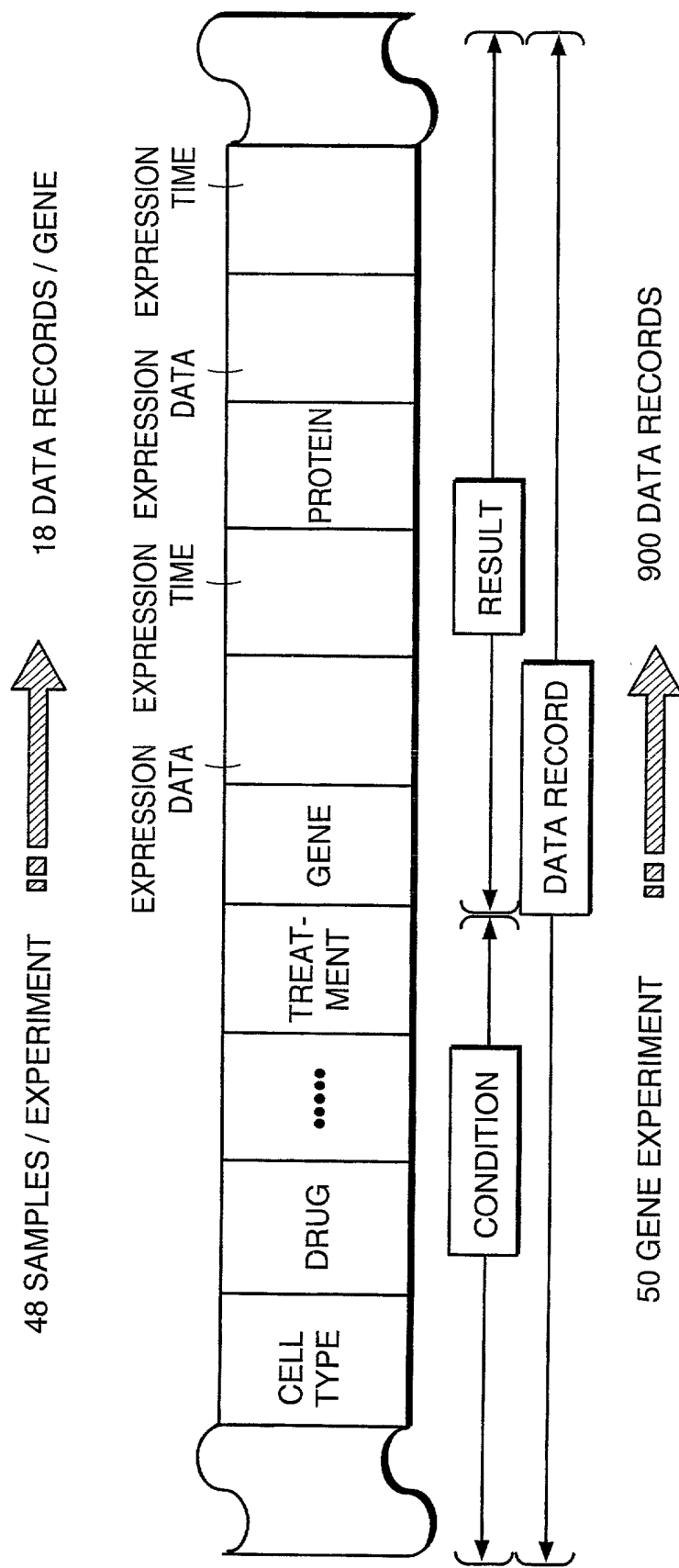


FIG. 6



EACH NEW RECORD IMPROVES THE PREDICTIVE POWER OF THE DATABASE AND INCREASES ITS VALUE

FIG. 7

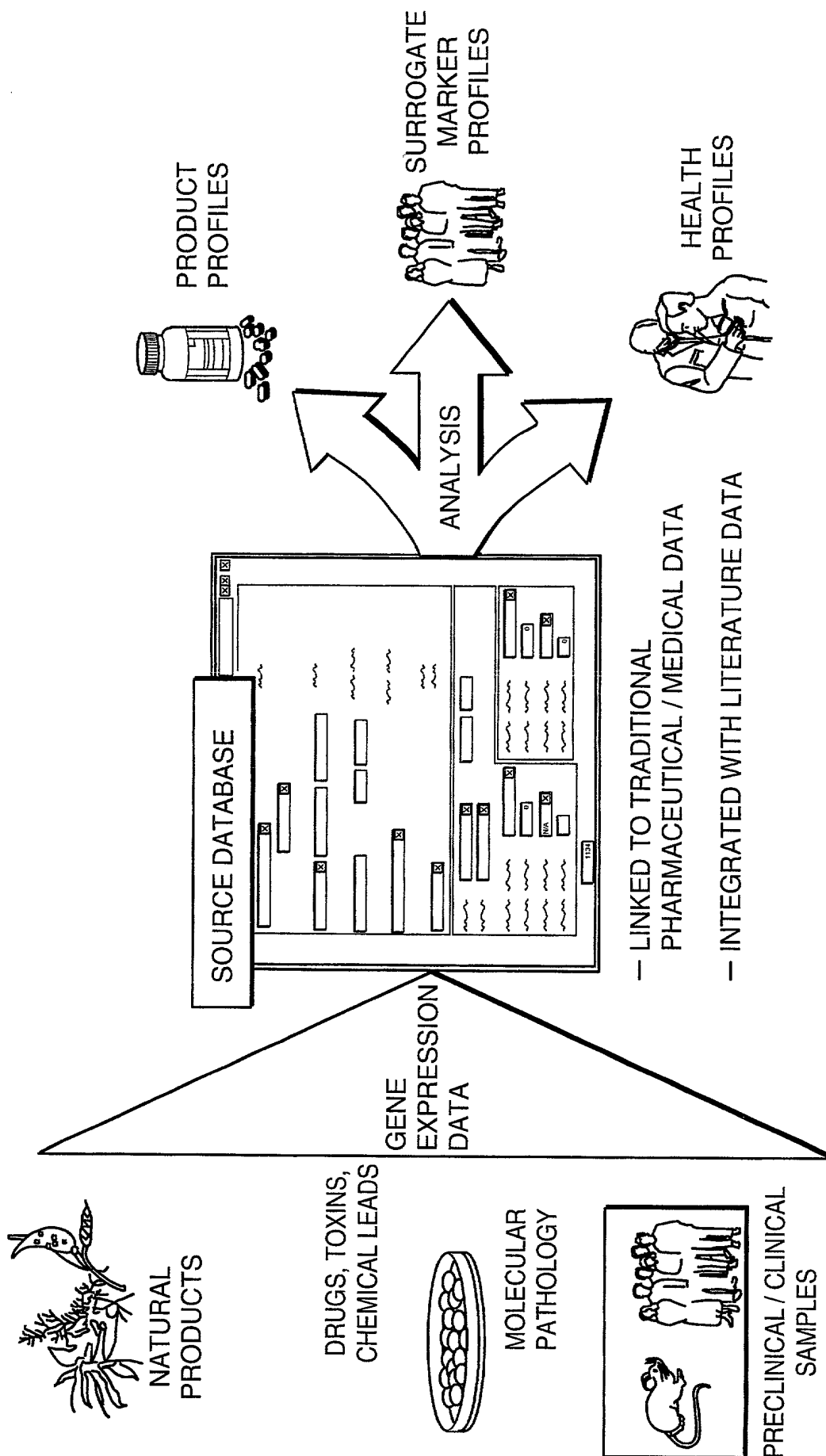


FIG. 8

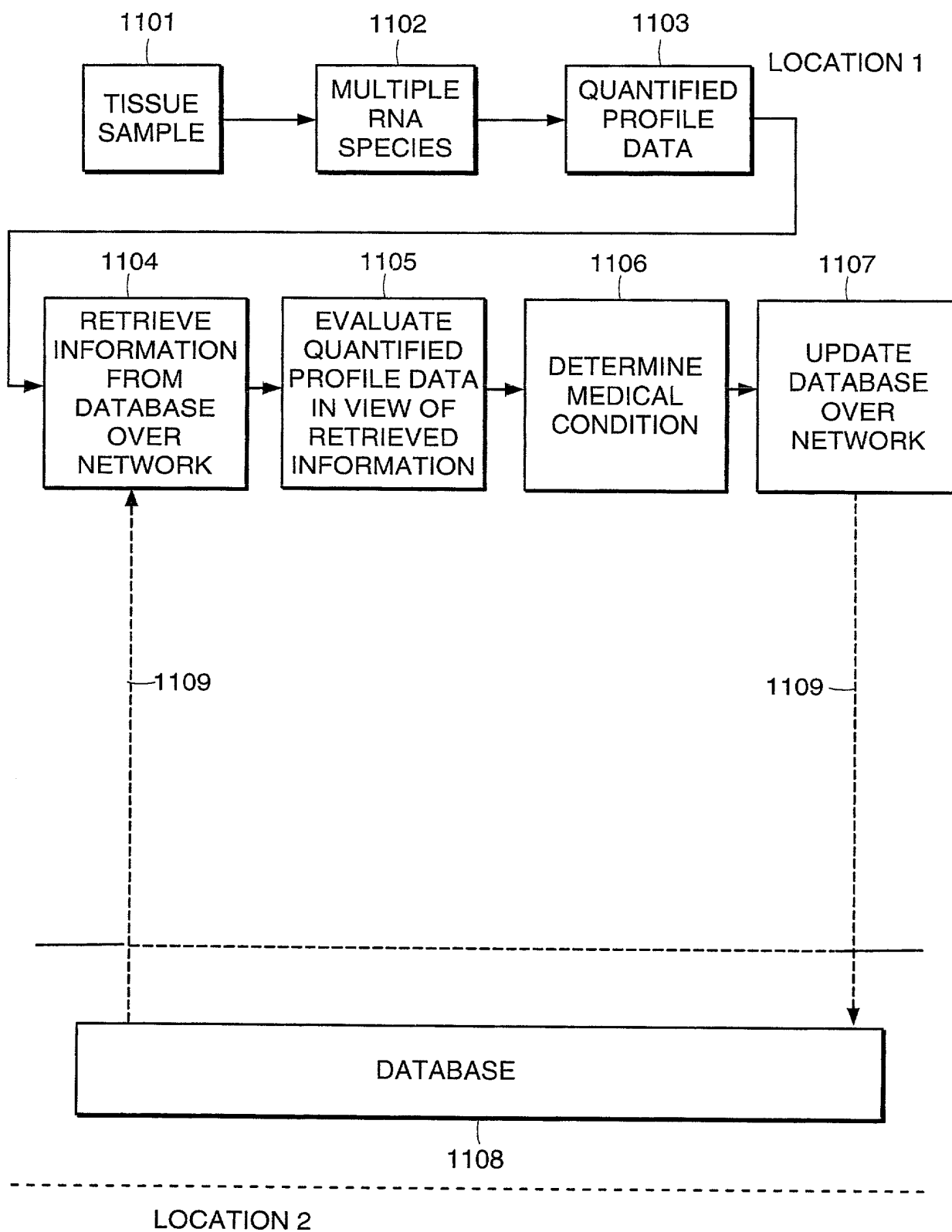
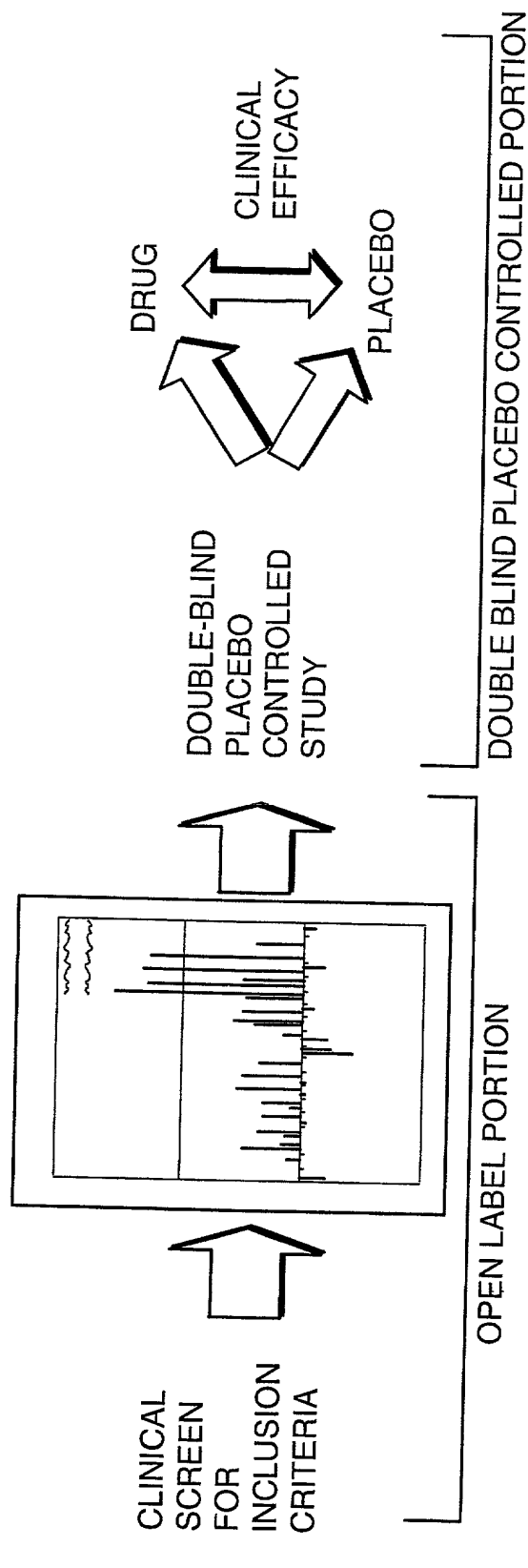


FIG. 9

PHASE TWO CLINICAL TRIAL DESIGN USING PRECISION PROFILING



– THE TARGET CLINICAL POPULATION CAN BE EVALUATED FOR RESPONSIVENESS TO THERAPY BY FOCUSING ON DRUG RESPONSE GENE PROFILING

– "SIGNAL TO NOISE" CAN BE ENHANCED BY REMOVING NON-RESPONDERS FROM THE SECOND PORTION OF THE STUDY

– DOSE CAN BE OPTIMIZED ON AN INDIVIDUAL BASIS TO MAXIMIZE THE IMPACT ON THERAPEUTIC OUTCOME

– CLINICAL RESPONSE/NON-RESPONSE CAN BE CORRELATED WITH DISEASE RESPONSE GENE PROFILING

– CLINICAL EFFICACY CAN BE MEASURED WITH GREATER PRECISION

– FUTURE STUDIES CAN BE PLANNED WITH GREATER CERTAINTY AND STATISTICAL POWER

– COMPARISON WITH CLINICAL DATABASES CAN PROVIDE IMPORTANT INFORMATION REGARDING COMPETITIVE POSITIONING RELATIVE TO EXISTING THERAPIES

FIG. 10a

FIG. 10b

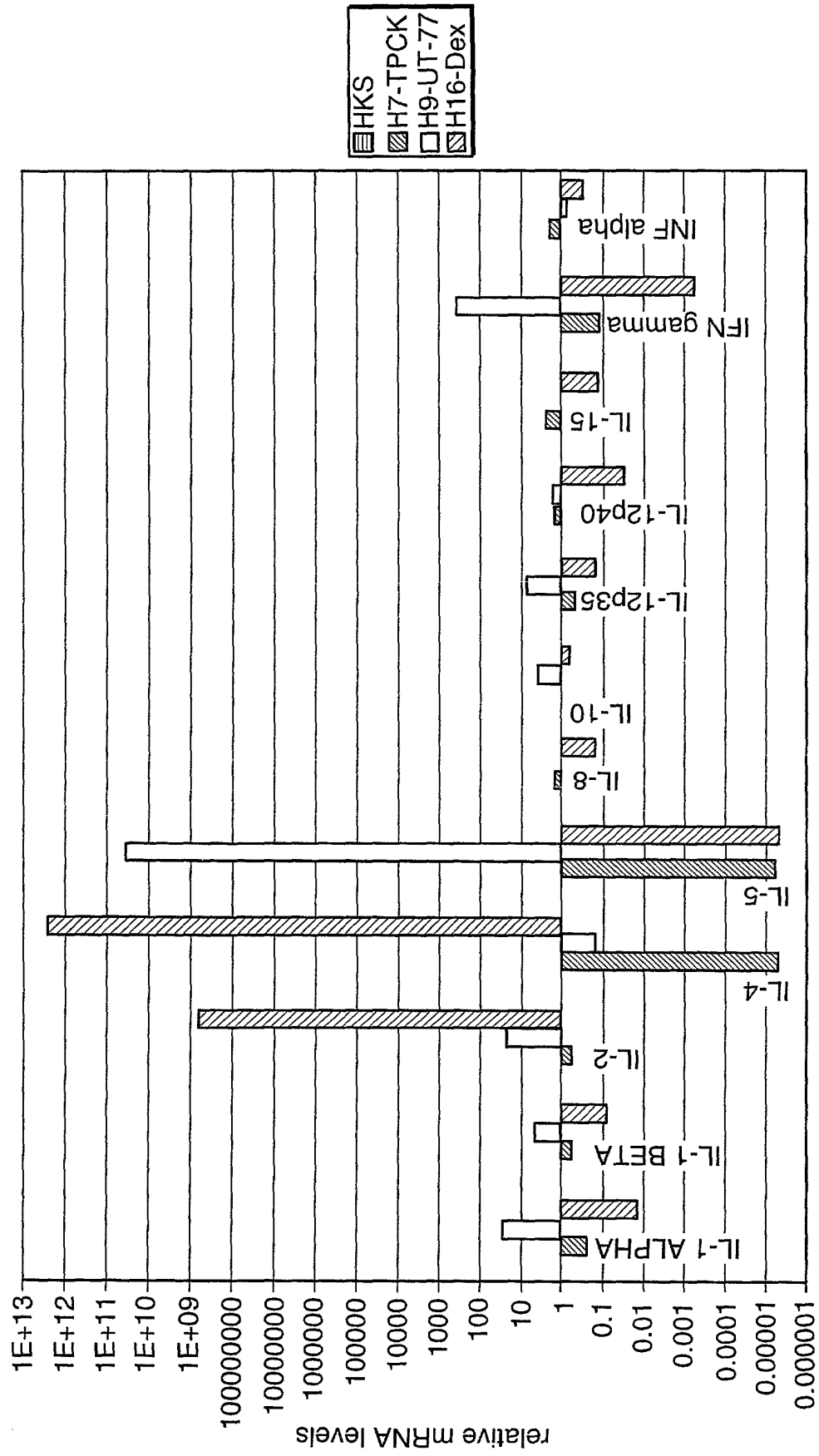


FIG. 11a

COMPARATIVE DRUG PROFILING SHOWS DIFFERENCES AMONG ANTI-INFLAMMATORY DRUGS WITH DIFFERENT MECHANISM OF ACTION

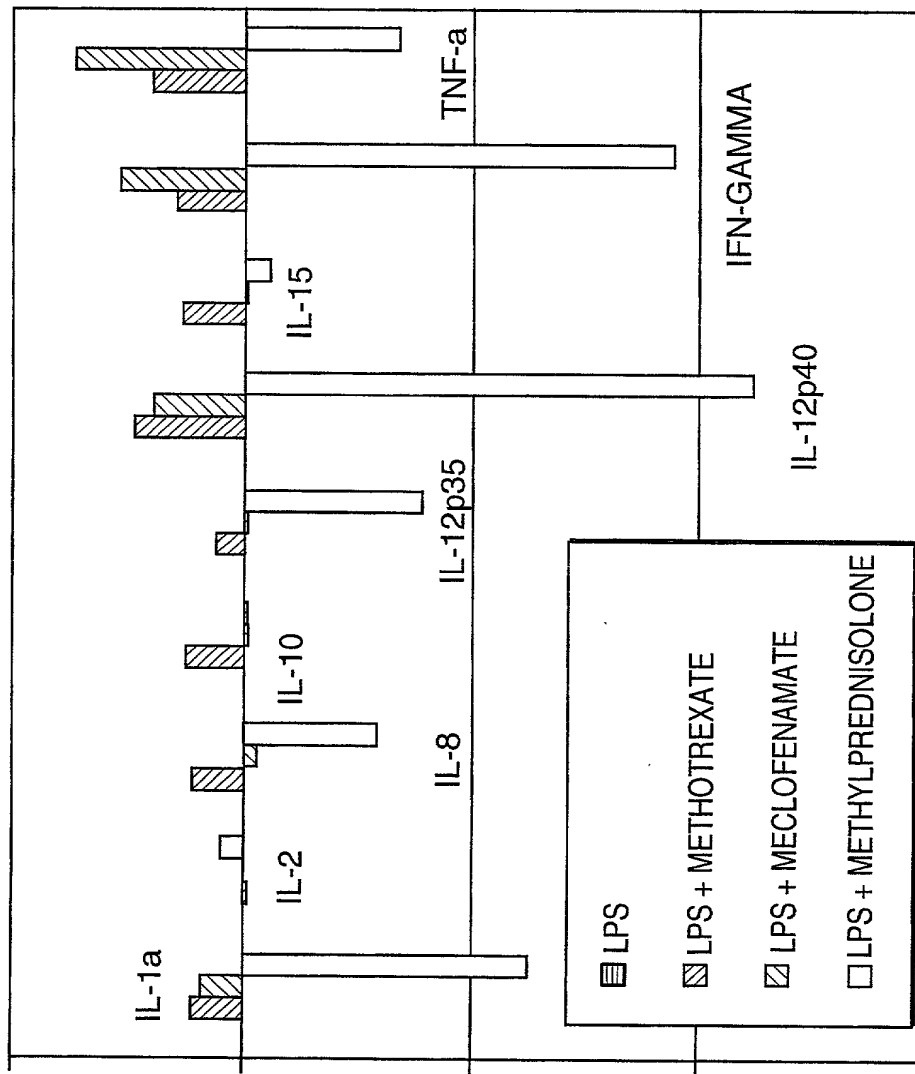


FIG. 12a

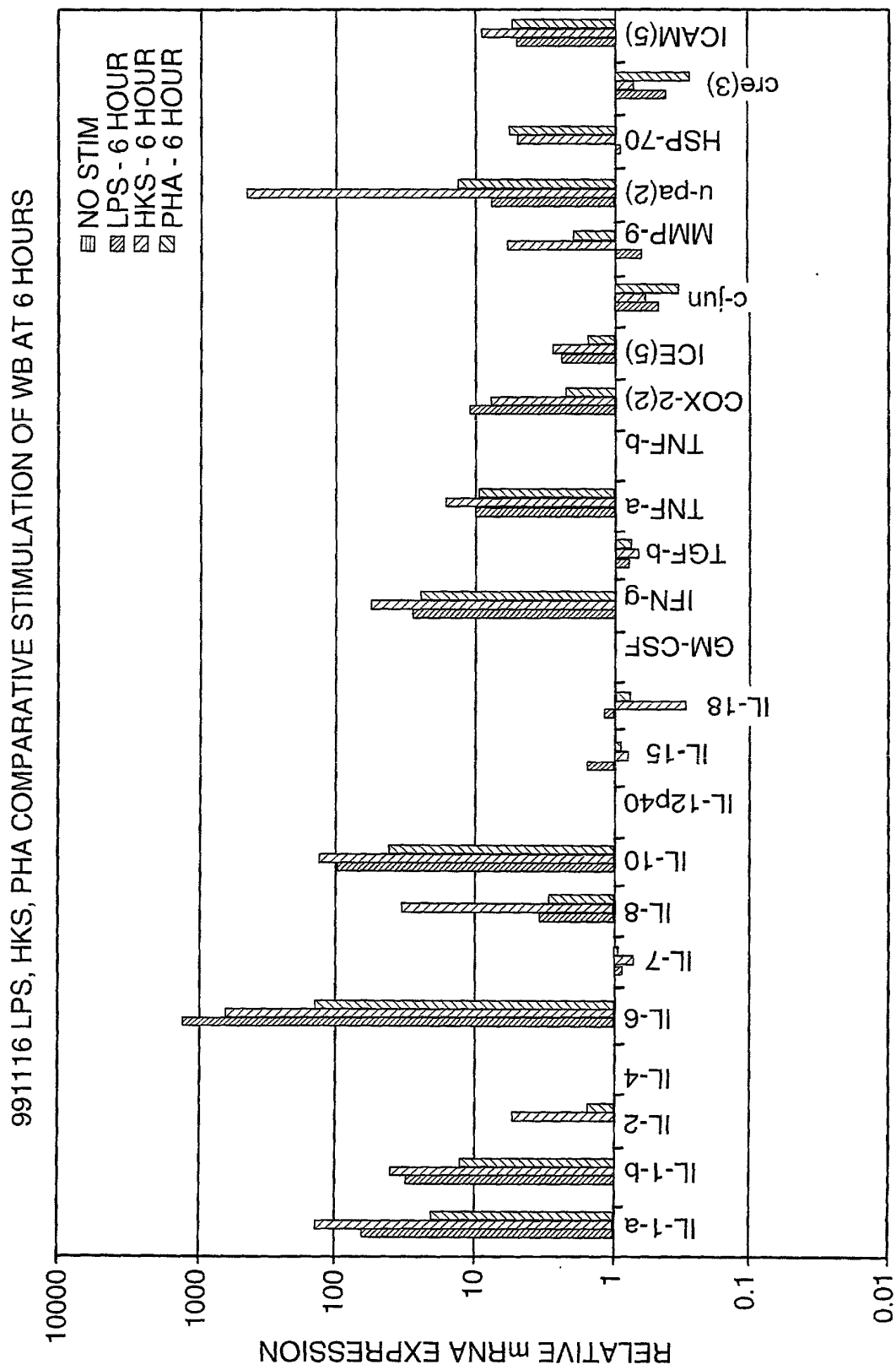


FIG. 13a

991028 LPS, HKS, PHA COMPARATIVE STIMULATION OF WB - 6 HOUR

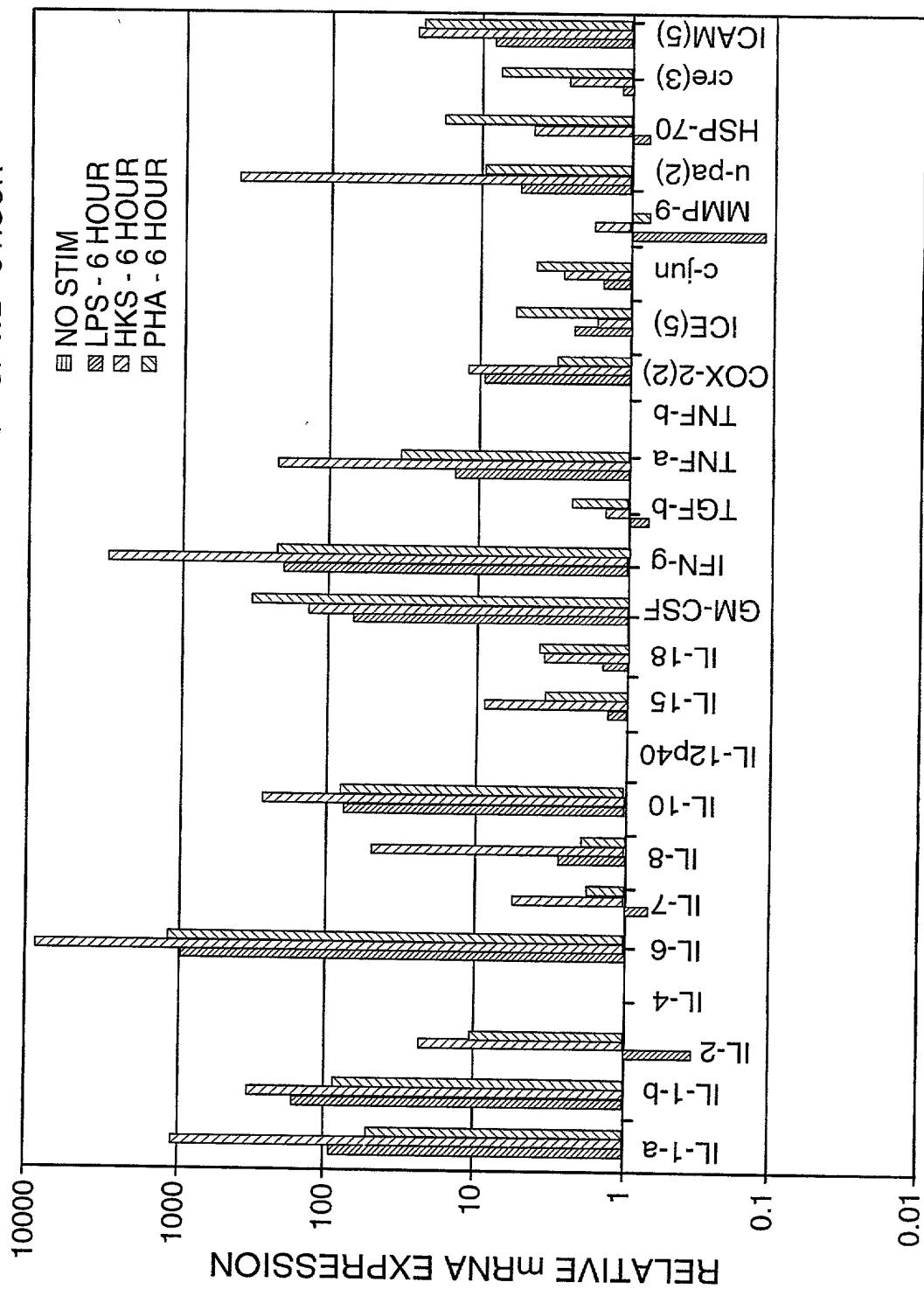


FIG. 13b

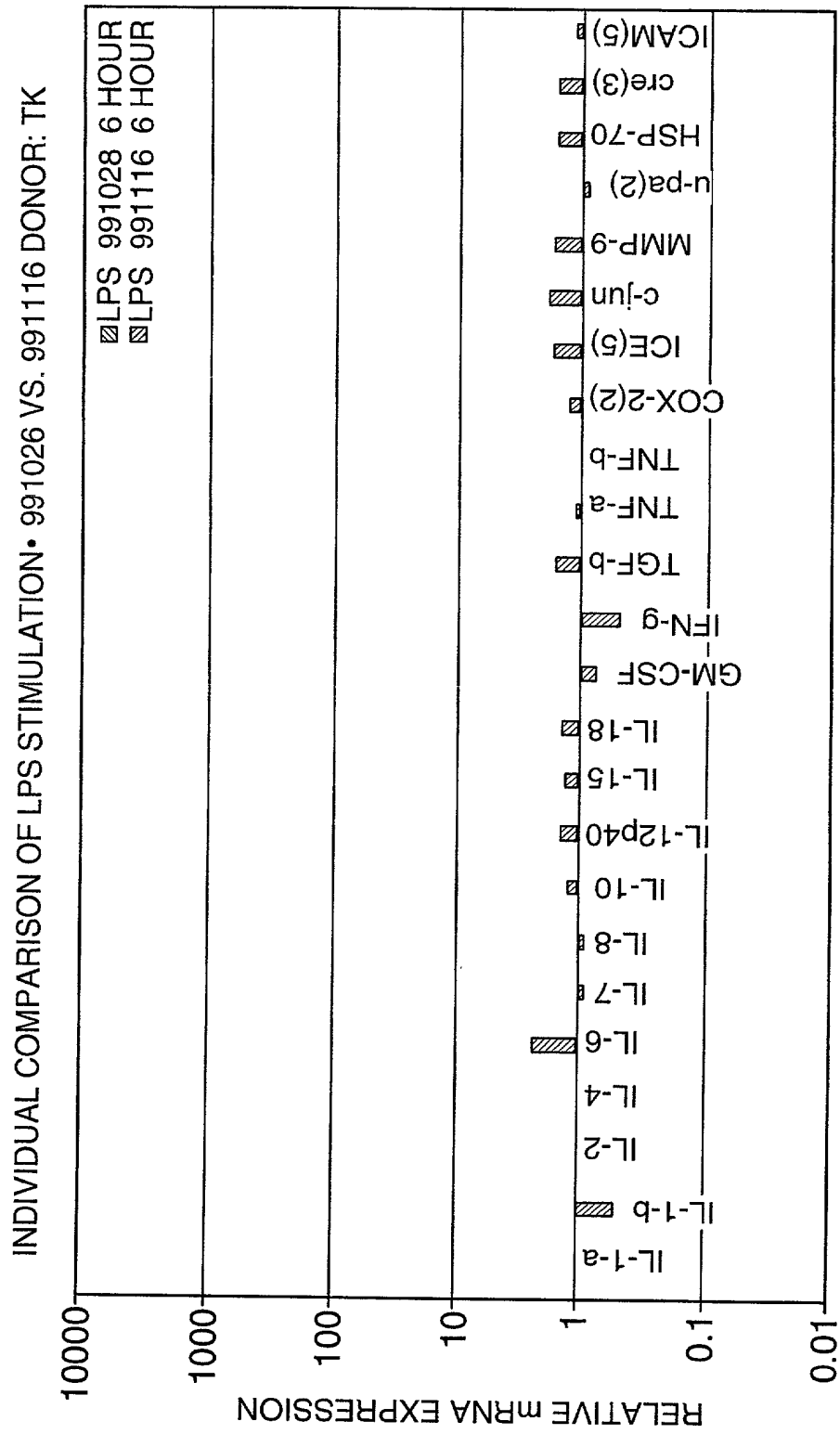


FIG. 13c

INDIVIDUAL COMPARISON OF DONOR SAMPLE WITH NO STIMULATION
6 HOUR - 991028 VS. 991116 DONOR: TK

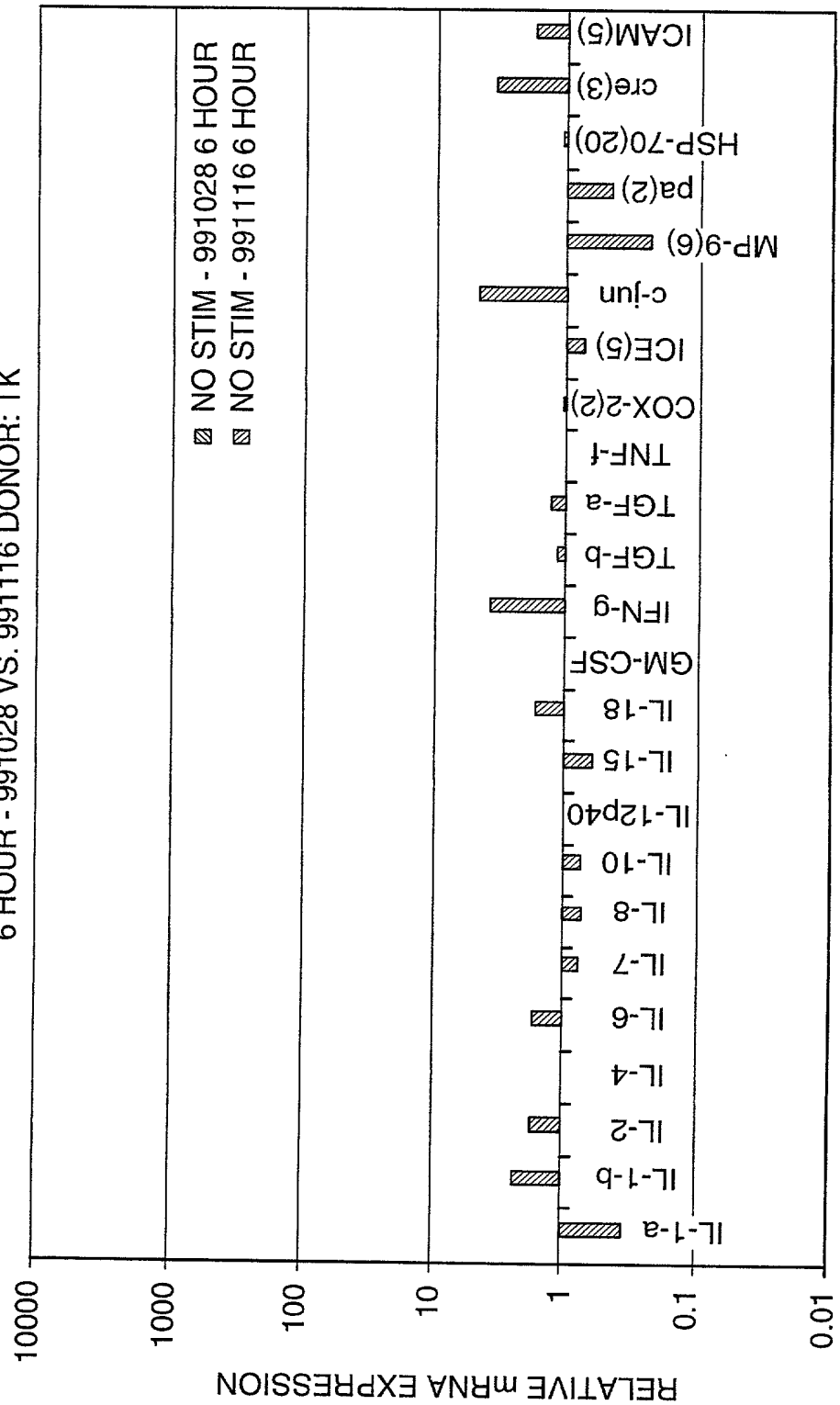


FIG. 13d

STIMULANT EFFECT ON METHYL PREDNISOLONE GENE EXPRESSION IN WHOLE BLOOD - 6 HOUR

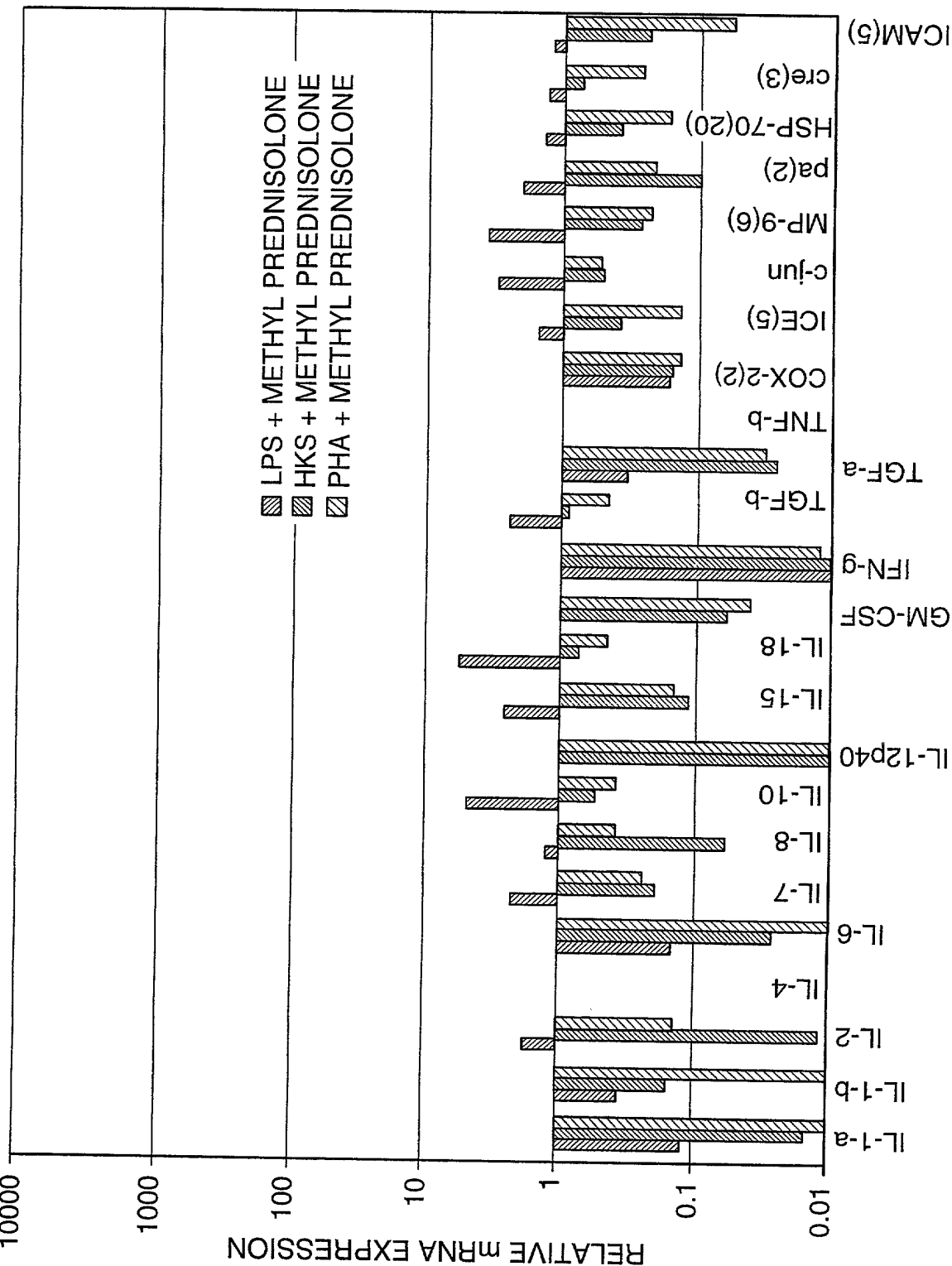
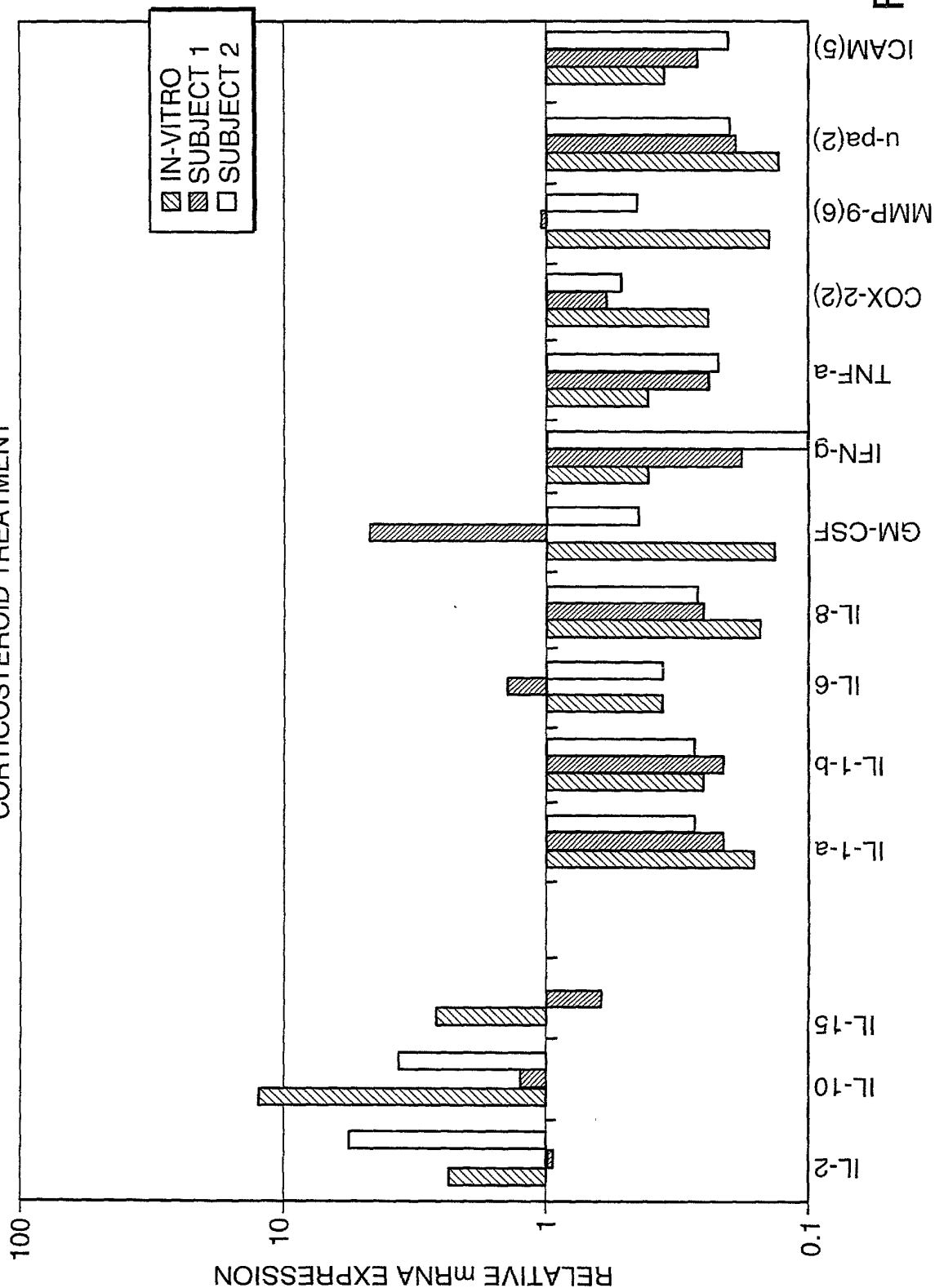


FIG. 14

COMPARISON OF IN VITRO AND IN VIVO GENE EXPRESSION IN RESPONSE TO CORTICOSTEROID TREATMENT



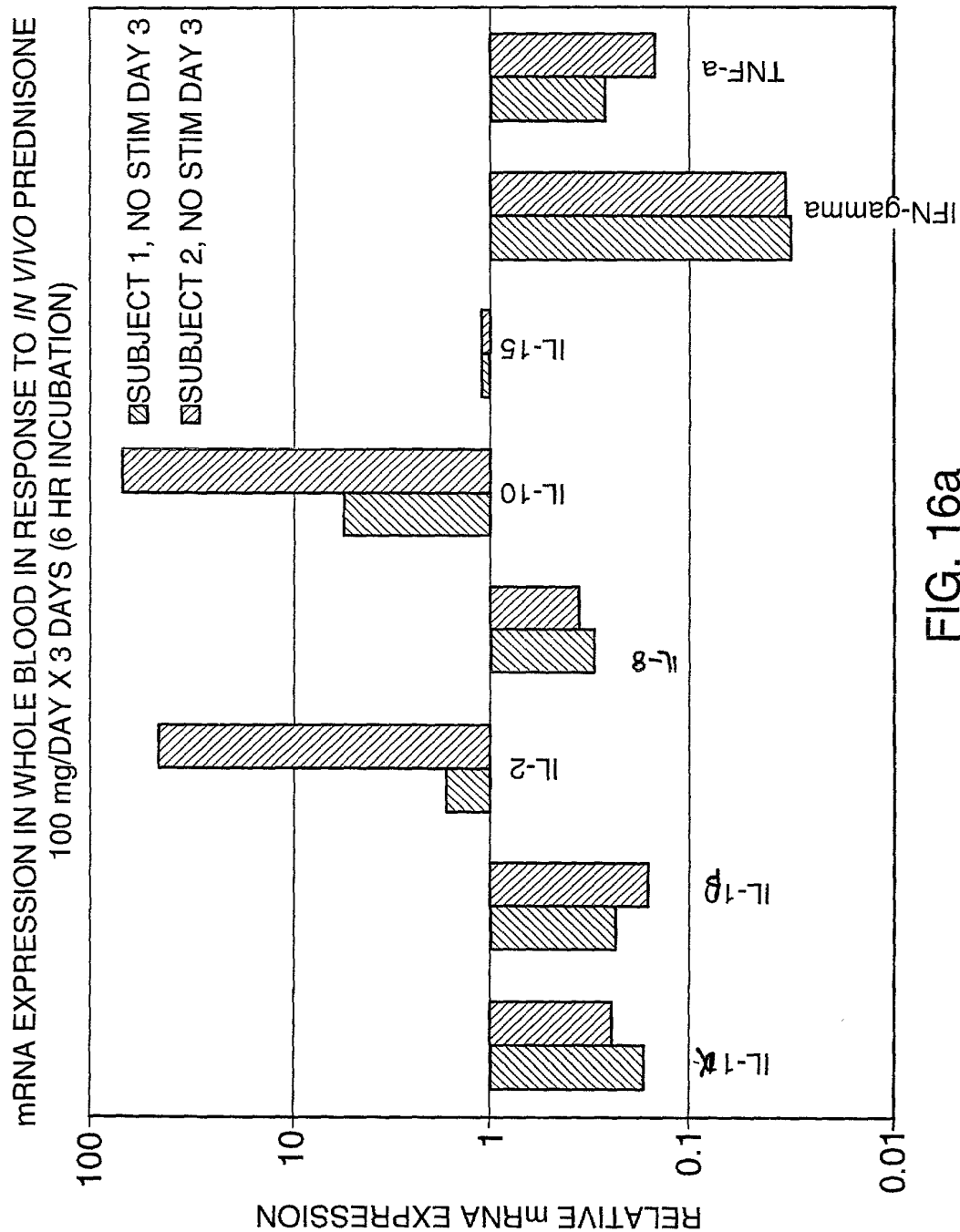


FIG. 16a

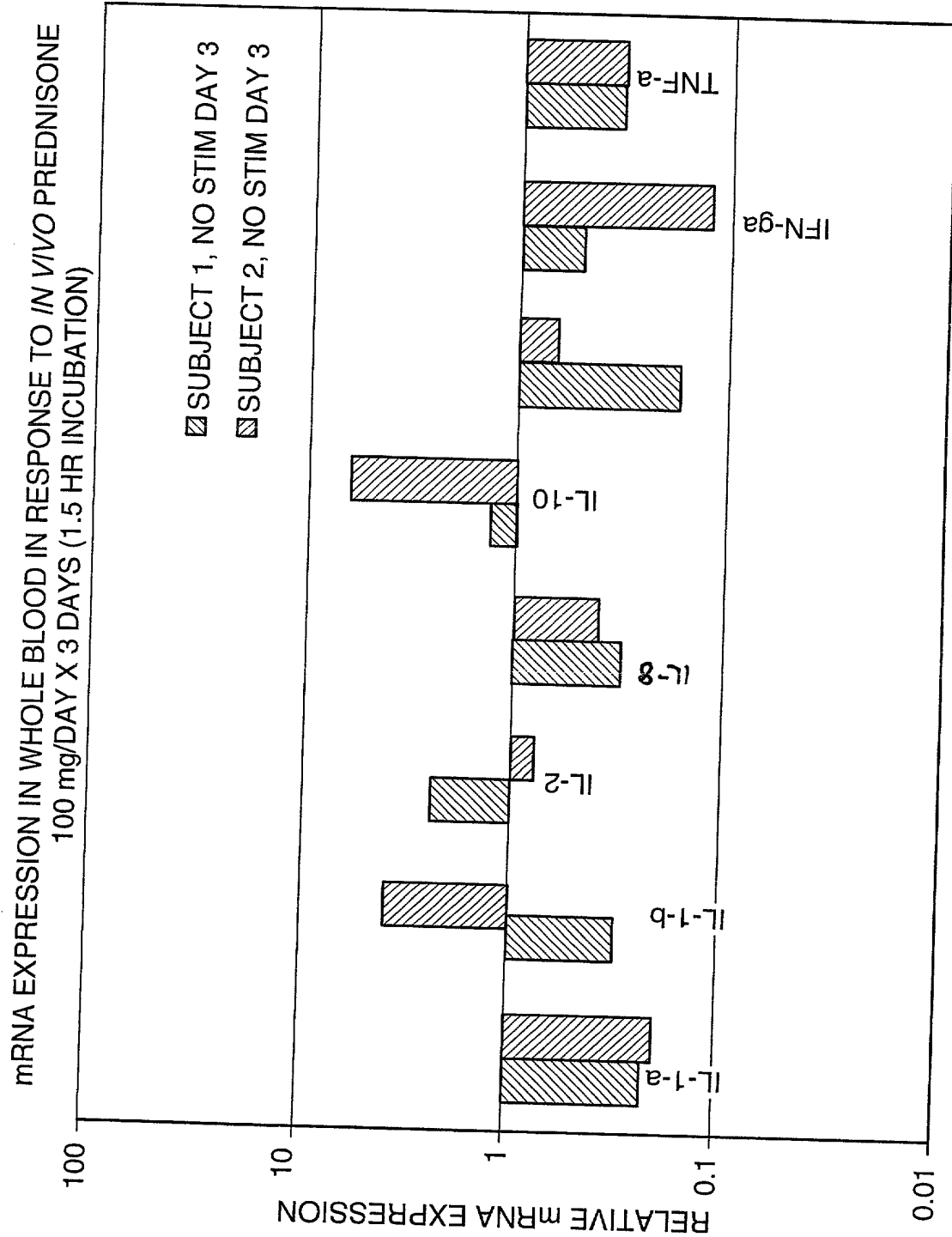


FIG. 16b

INDIVIDUAL COMPARISON - 991028 VS. 991116
DONOR: TK

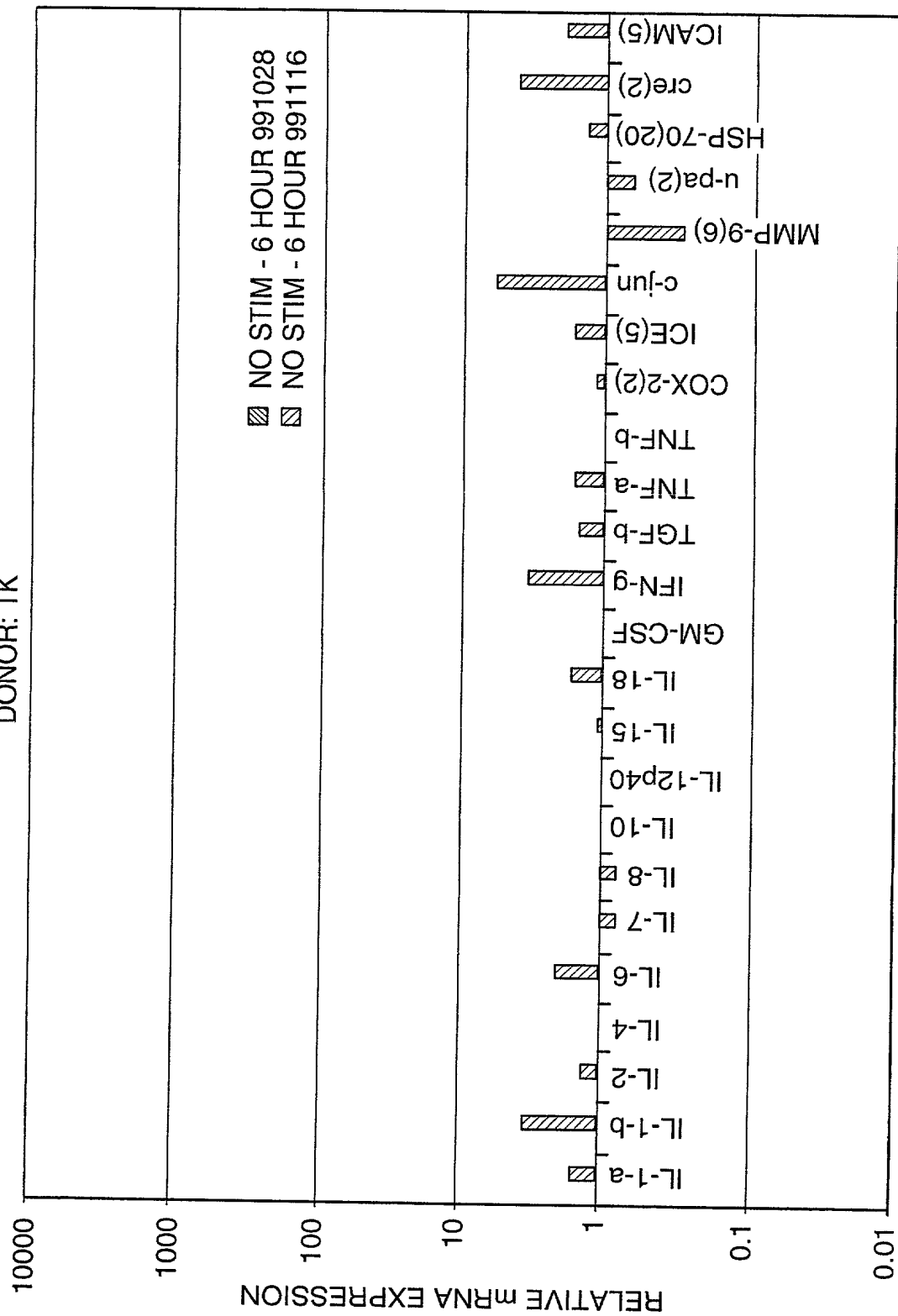
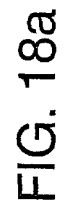


FIG. 17



PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 2

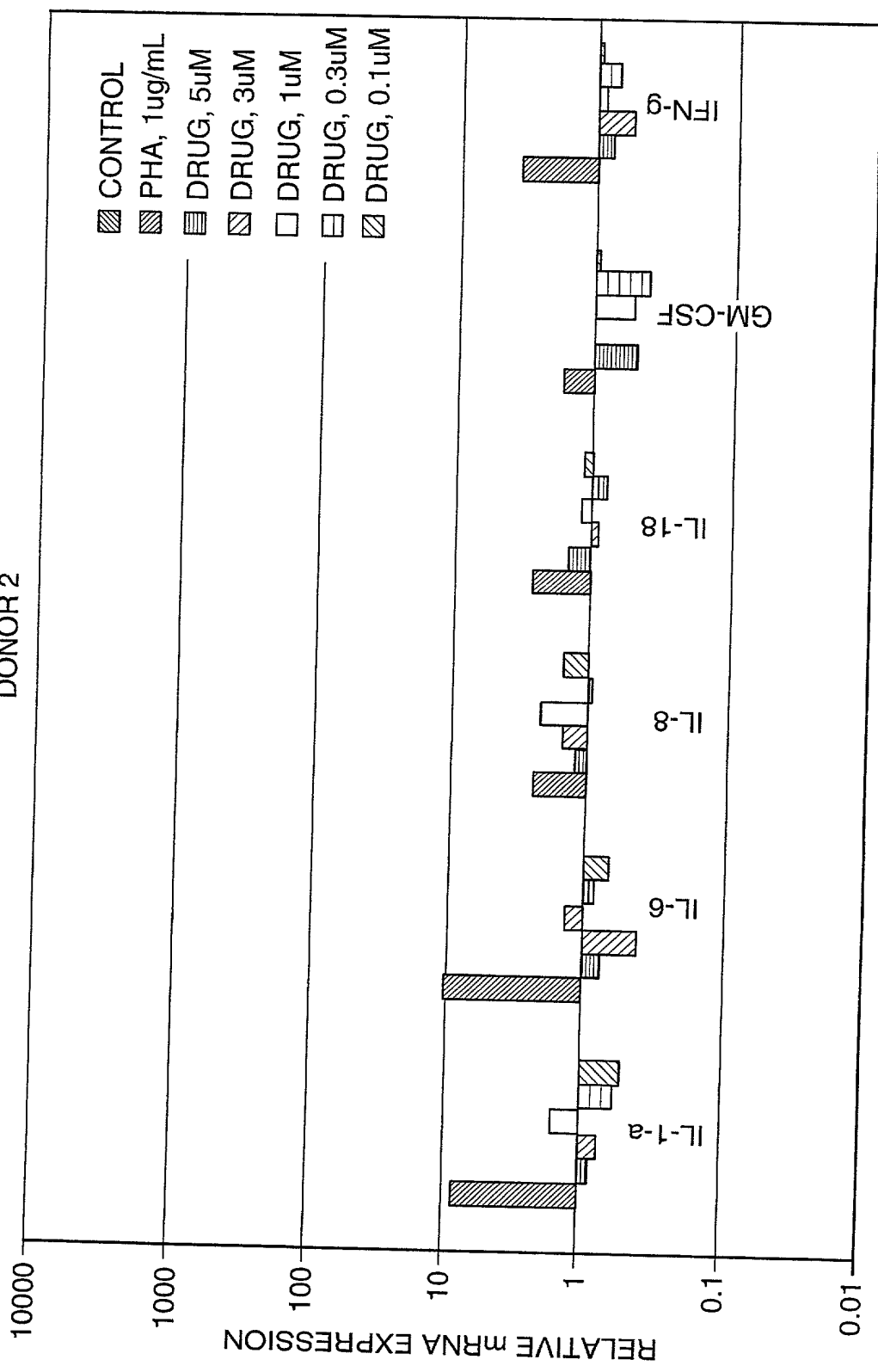


FIG. 18b

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 3

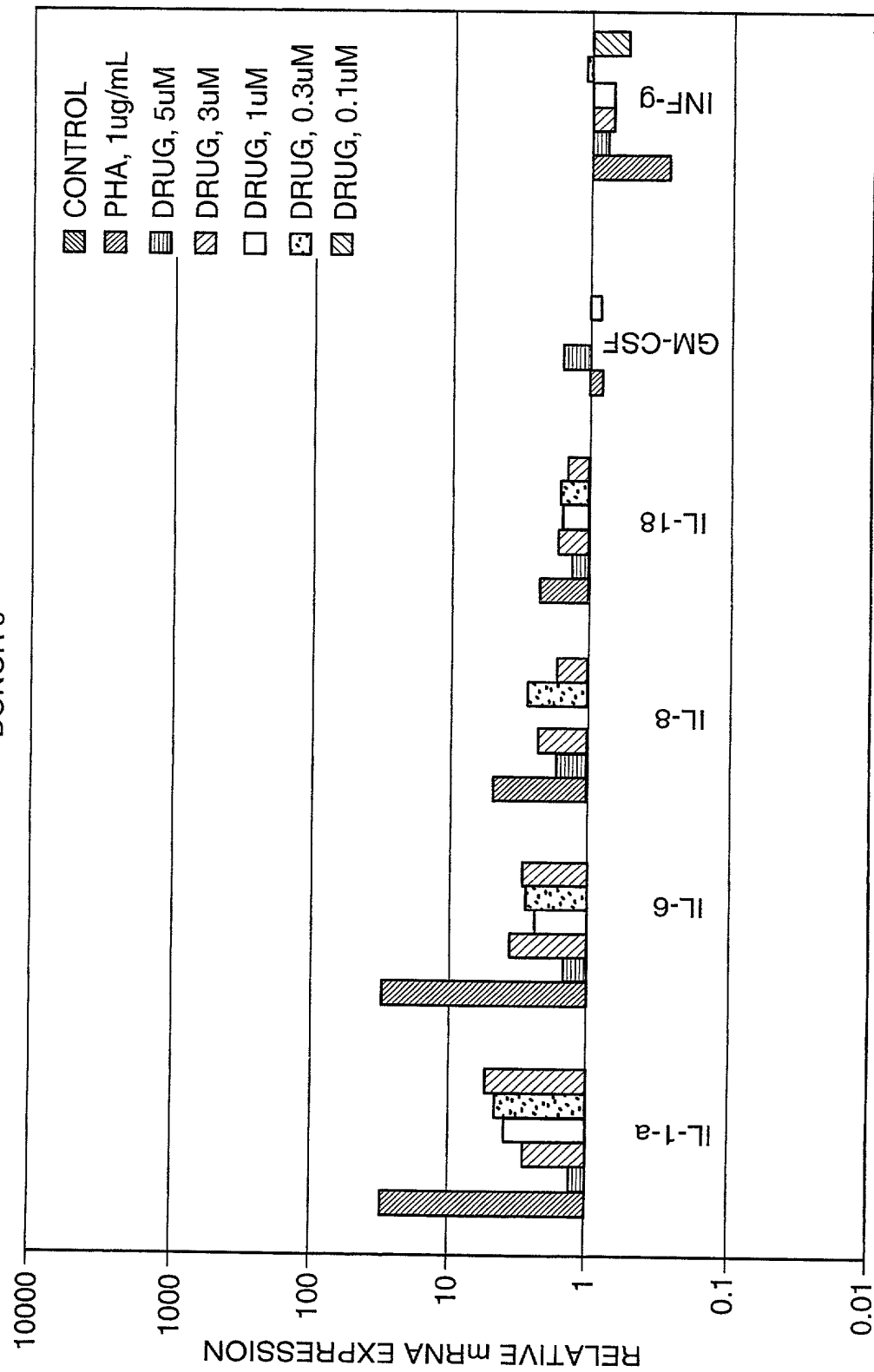


FIG. 18c

PB001 STUDY 2, STAGE 3
EFFECTS OF DRUG ON WHOLE BLOOD
DONOR 4

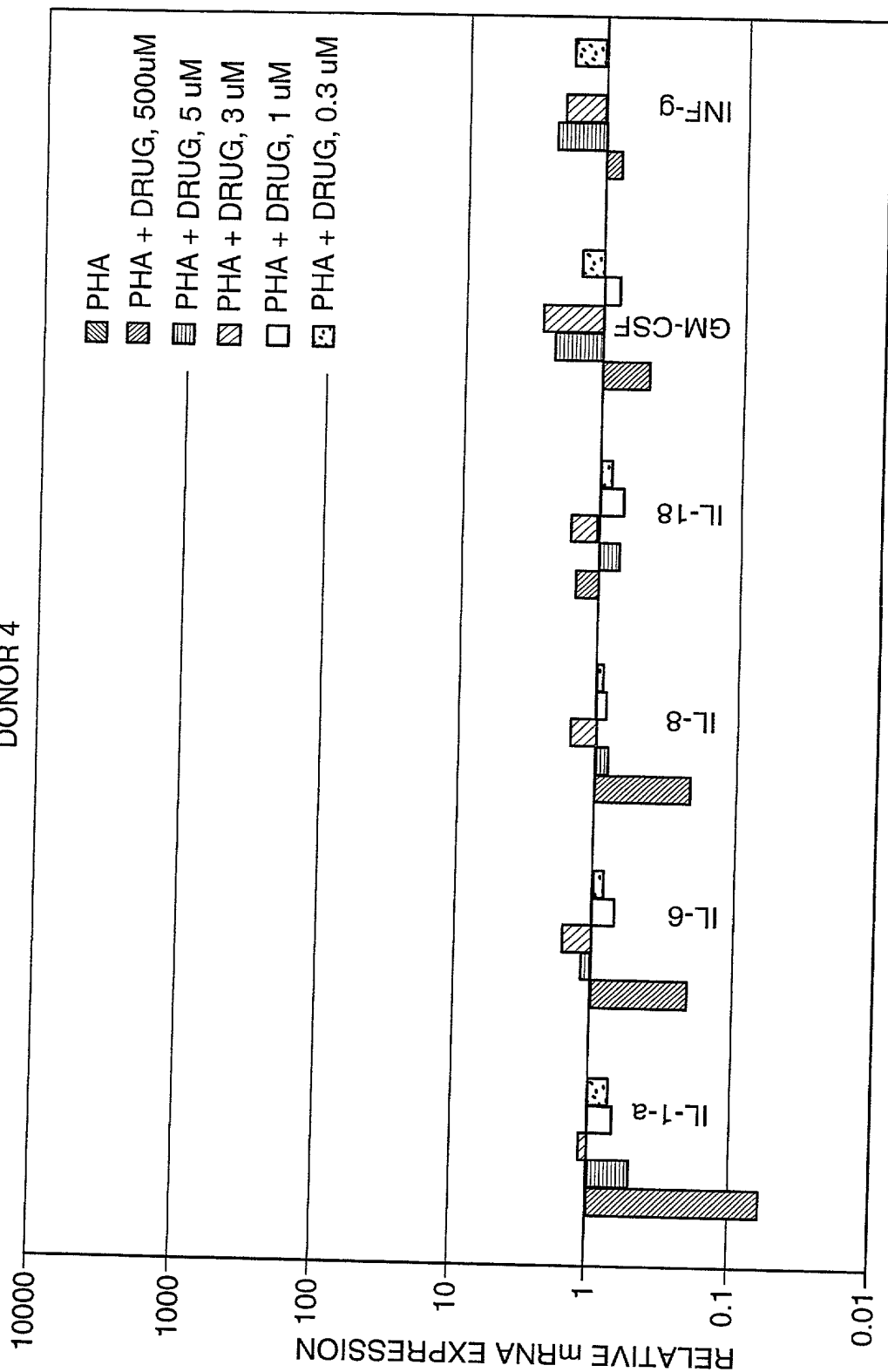


FIG. 18d

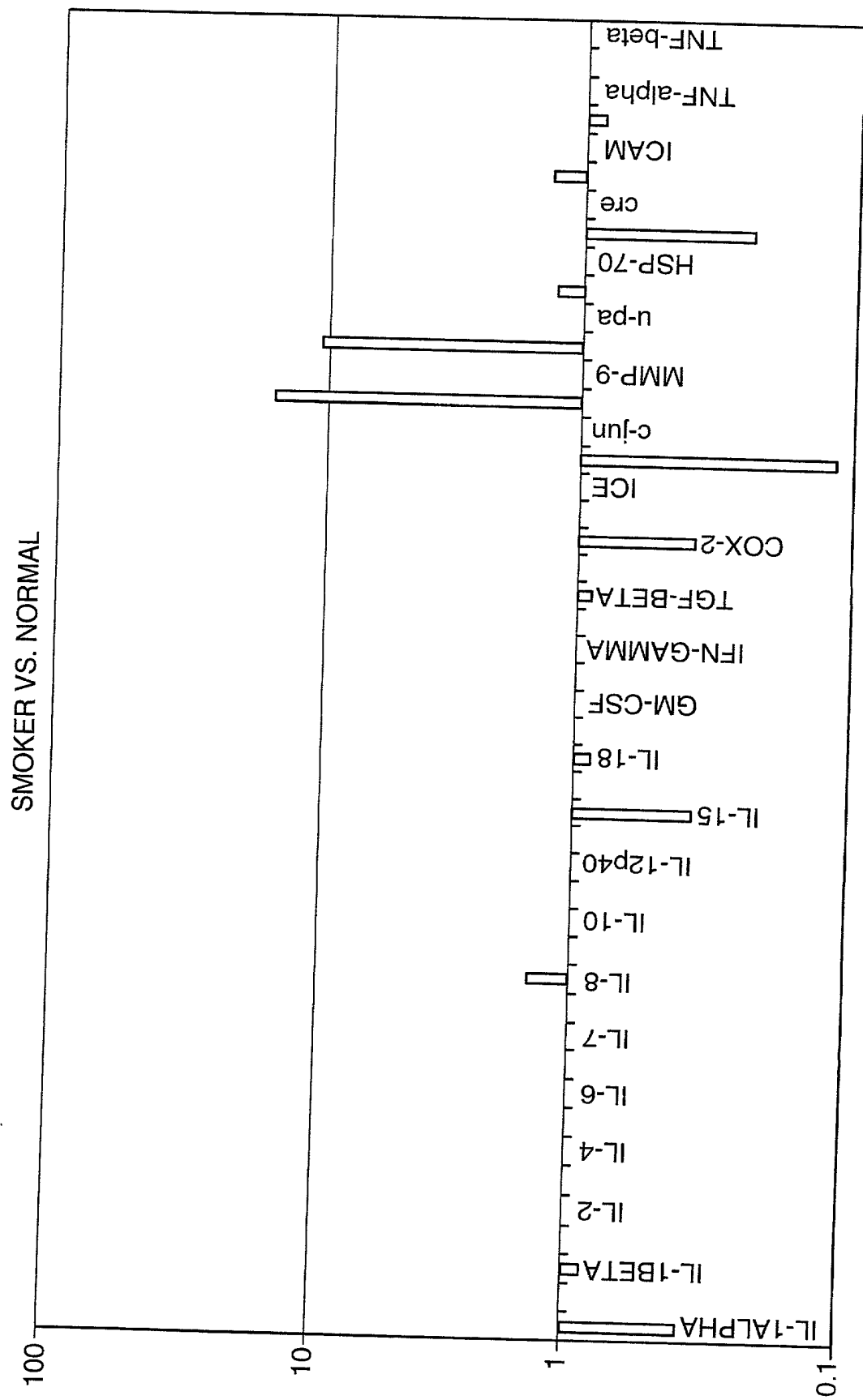


FIG. 19a

NAC PATIENT VS. NORMAL

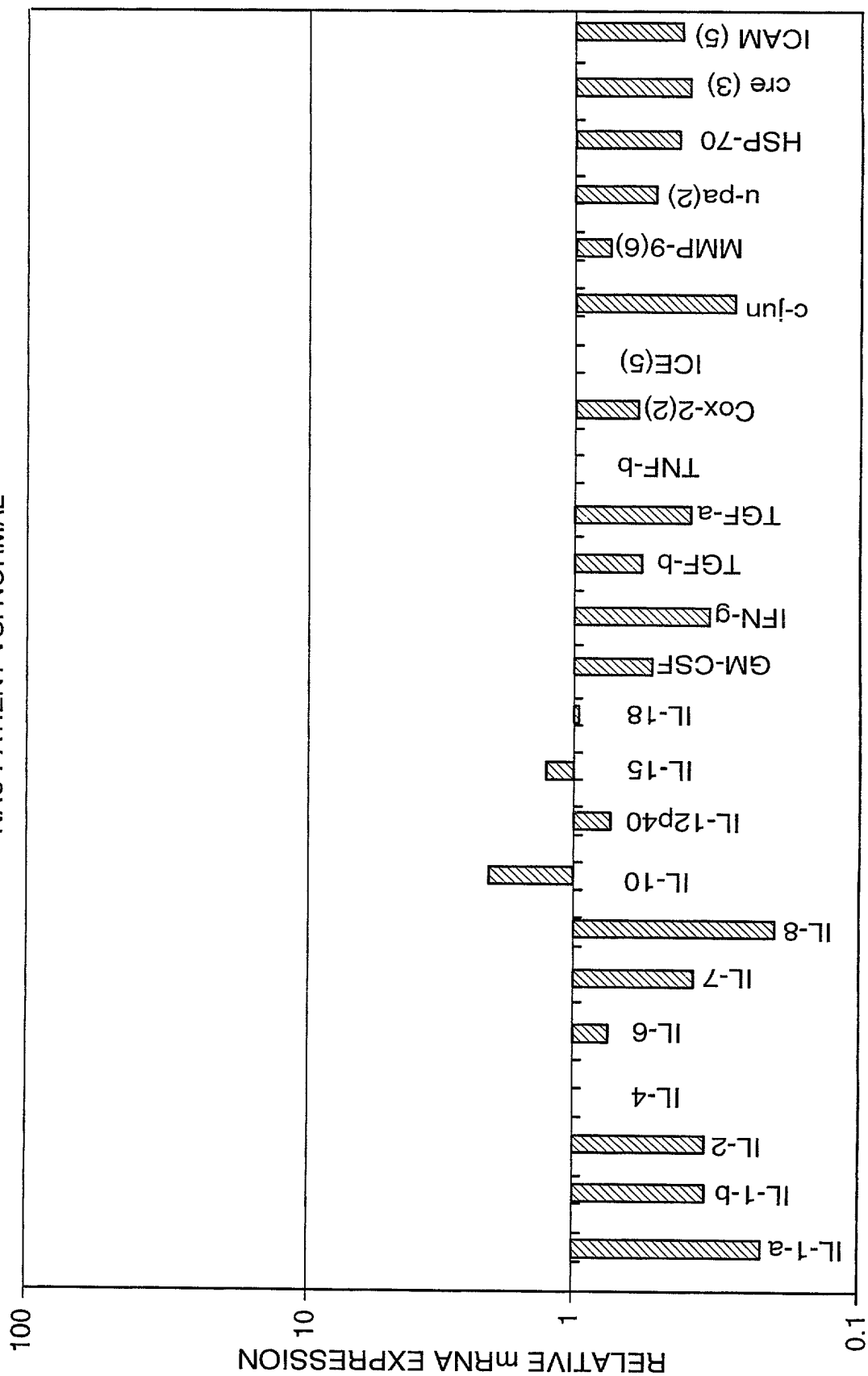


FIG. 19b

EXPRESSION OF GST-P GENE IN INDIVIDUAL RATS FOLLOWING A TOXIC DOSE OF ACETAMINOPHEN

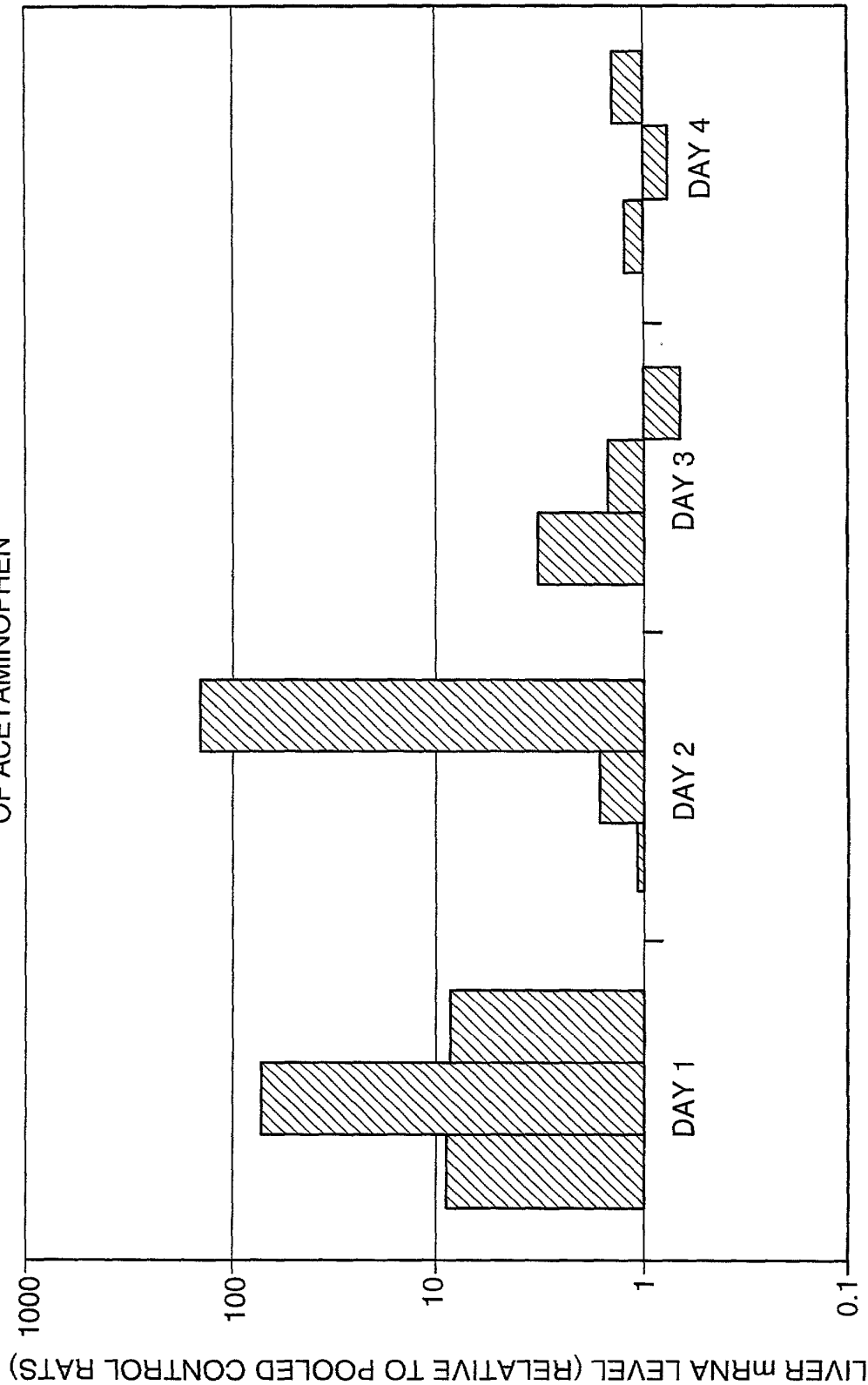


FIG. 20

COMPARATIVE HERBAL PROFILING SHOWS DIFFERENCES AMONG ANTI-INFLAMMATORY HERBS SUCH AS ECHINACEA, ARNICA AND SIBERIAN GINSENG

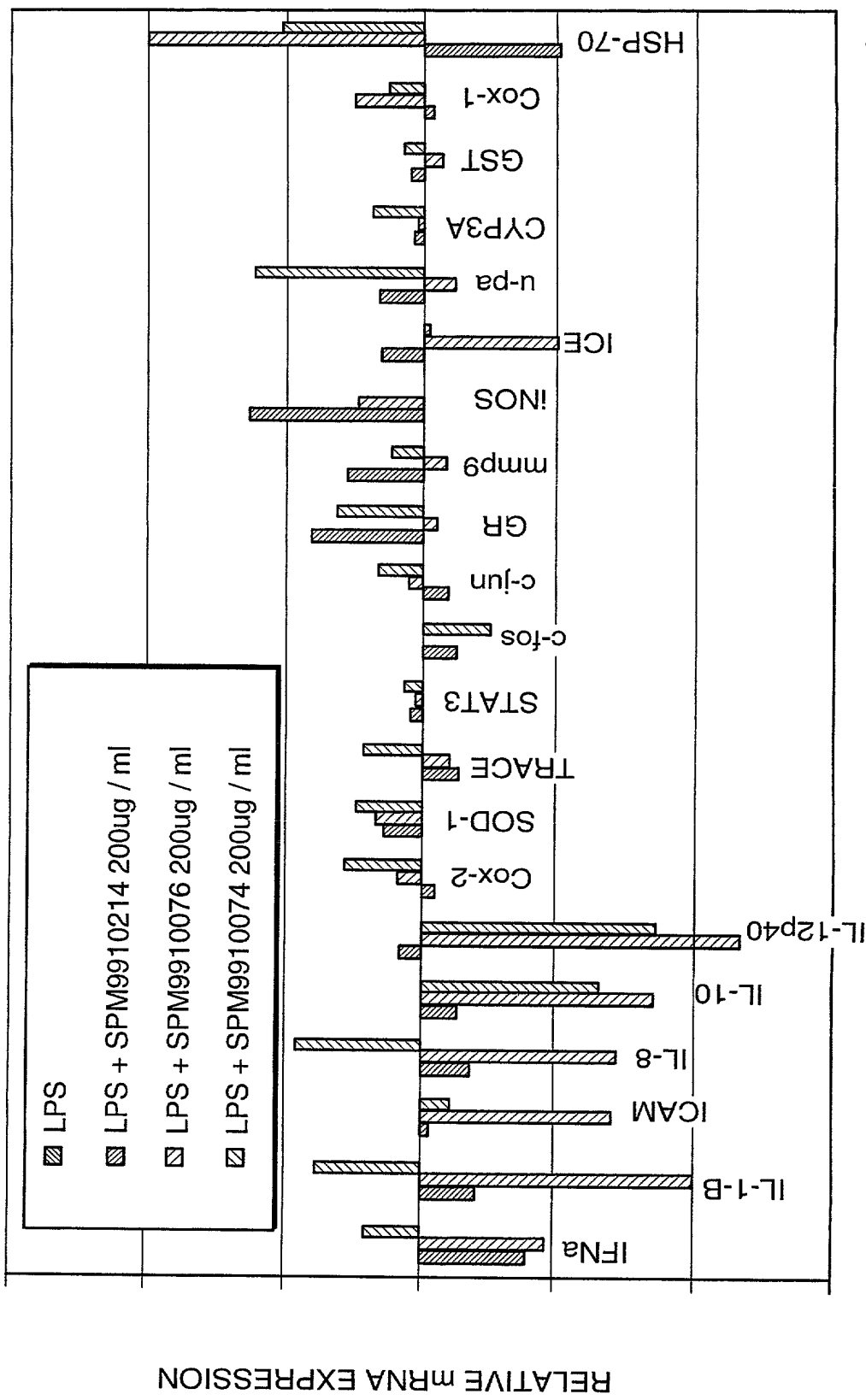


FIG. 21

991203 WHOLE BLOOD 6HR

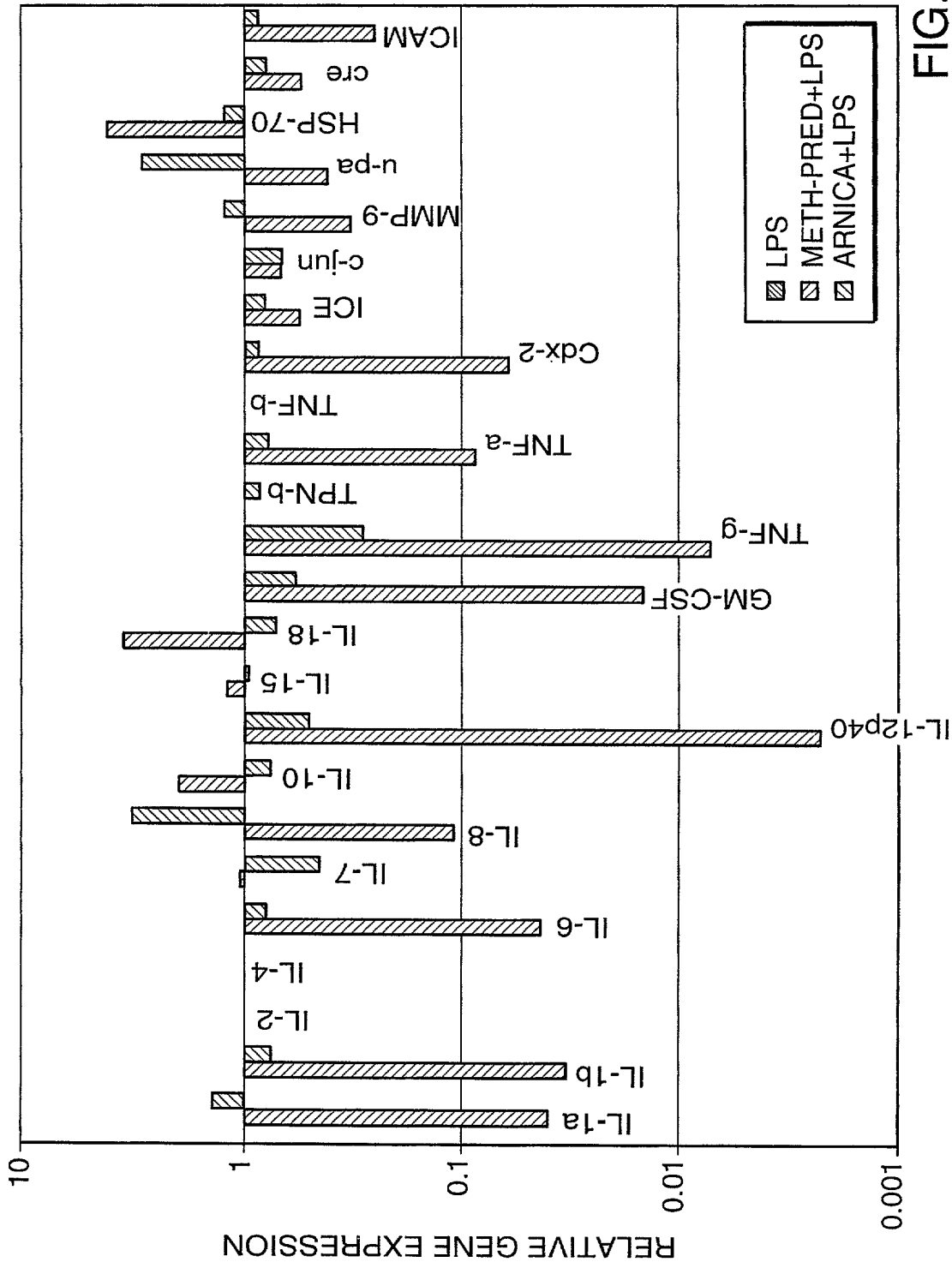


FIG. 22

PRECISION PROFILES CAN CORRELATE WITH A DOSE RESPONSE FOR A GIVEN HERBAL

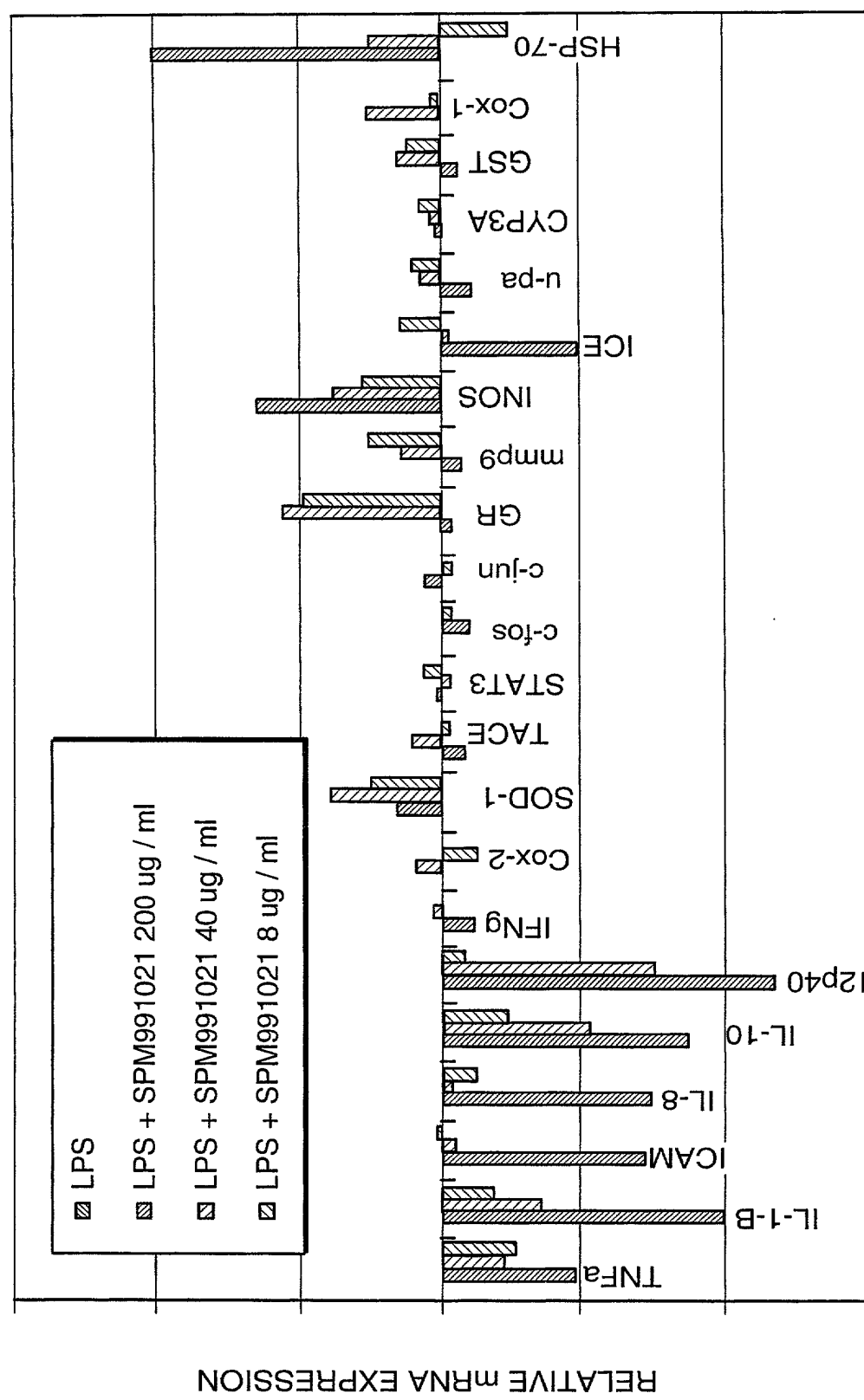


FIG. 23

PRECISION PROFILES REVEAL CONTAMINATION WITH ENDOTOXIN
AMONG DIFFERENT COMMERCIAL BRANDS AS REVEALED IN SPM010
AND SPM016

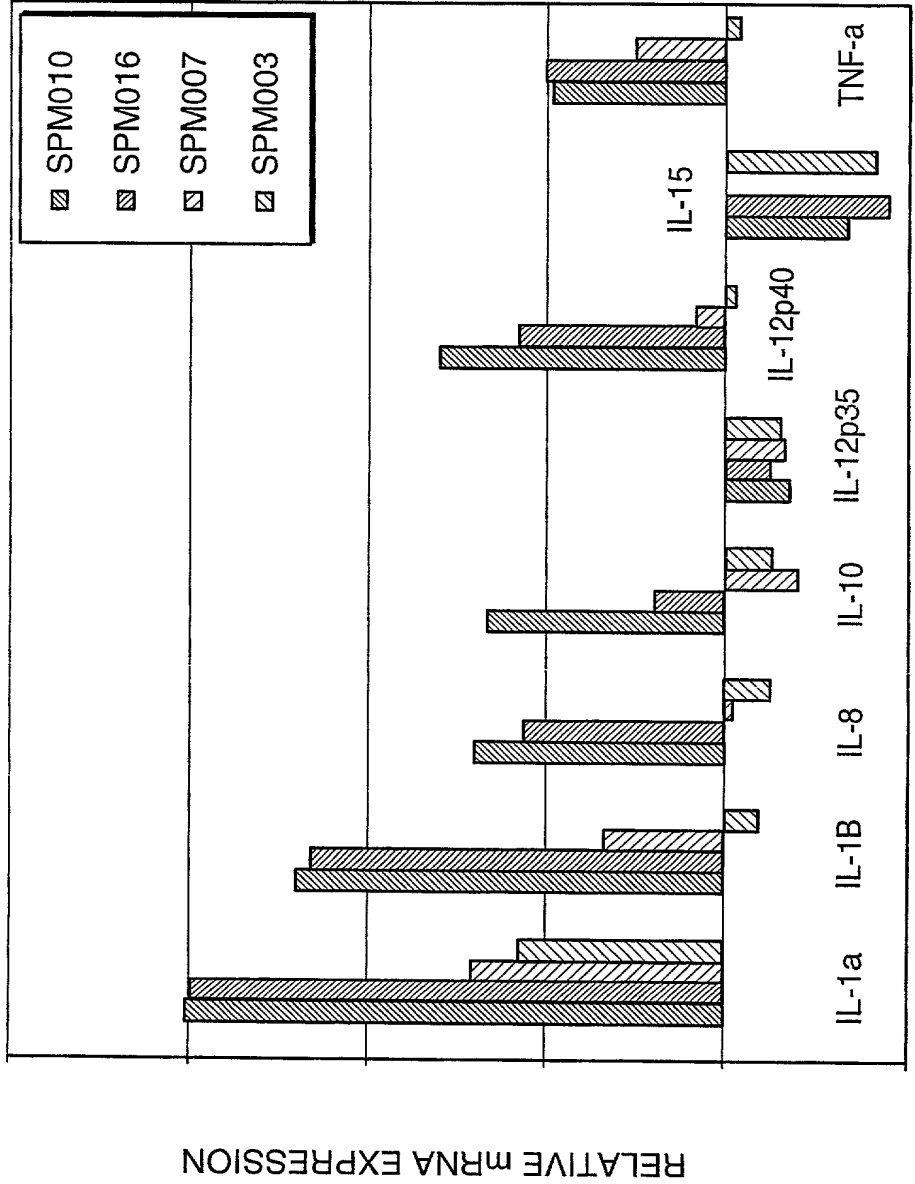


FIG. 24

HIGH DOSE COMPARISON OF UNSTIMULATED THP-1 CELL
TREATMENT WITH THREE HERBAL PREPARATIONS SHOWS SIGNIFICANT
VARIATION IN EFFICACY

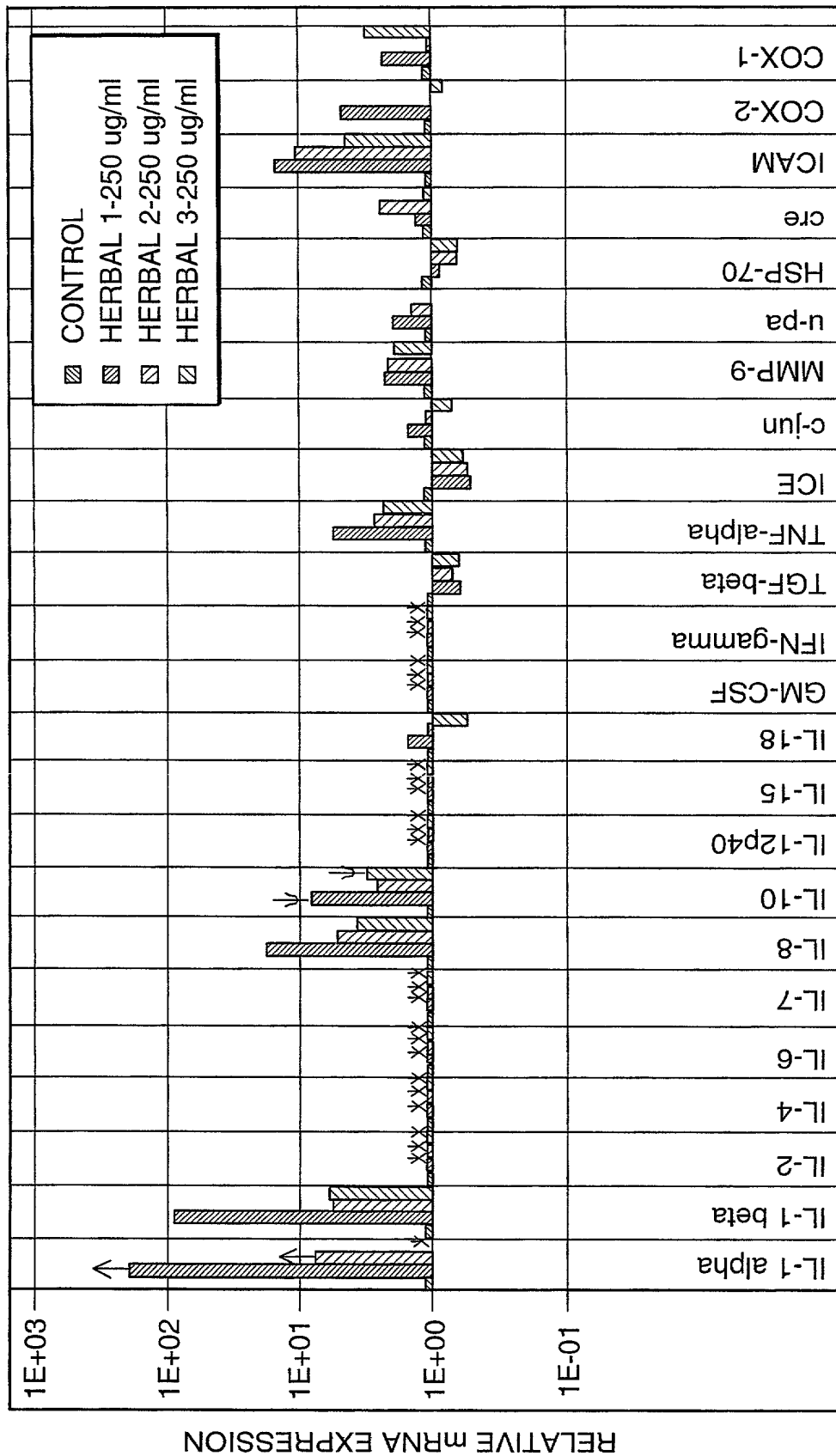


FIG. 25a

TREATMENT OF UNSTIMULATED THP-1 CELLS WITH A SINGLE
HERBAL SHOWS A NICE DOSE RESPONSE AMONG A SUBSET OF
GENES

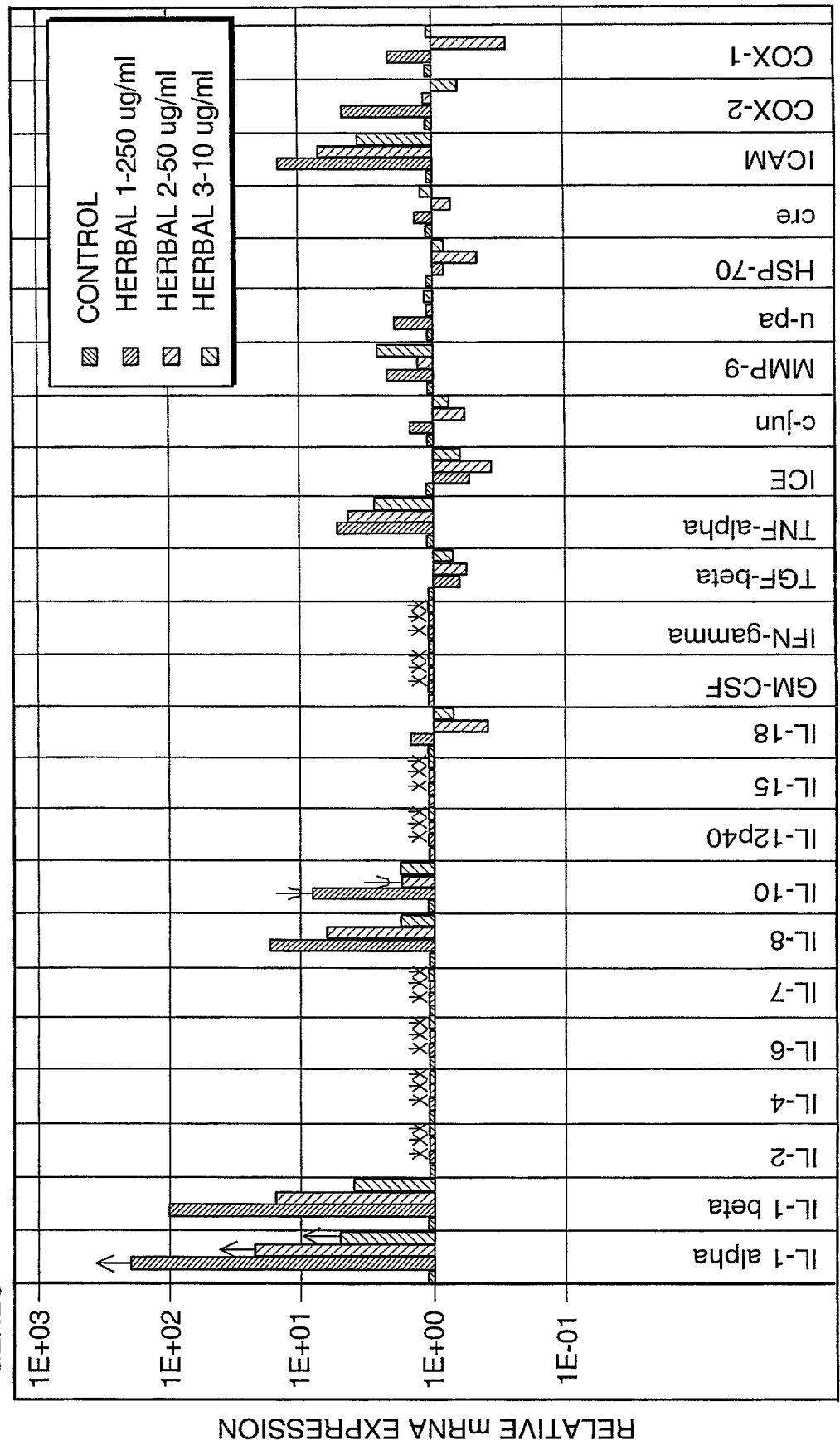


FIG. 25b

PRECISION PROFILES ALLOW FOR COMPARISON OF
COMMERCIAL ECHINACEAS (E1-E4)

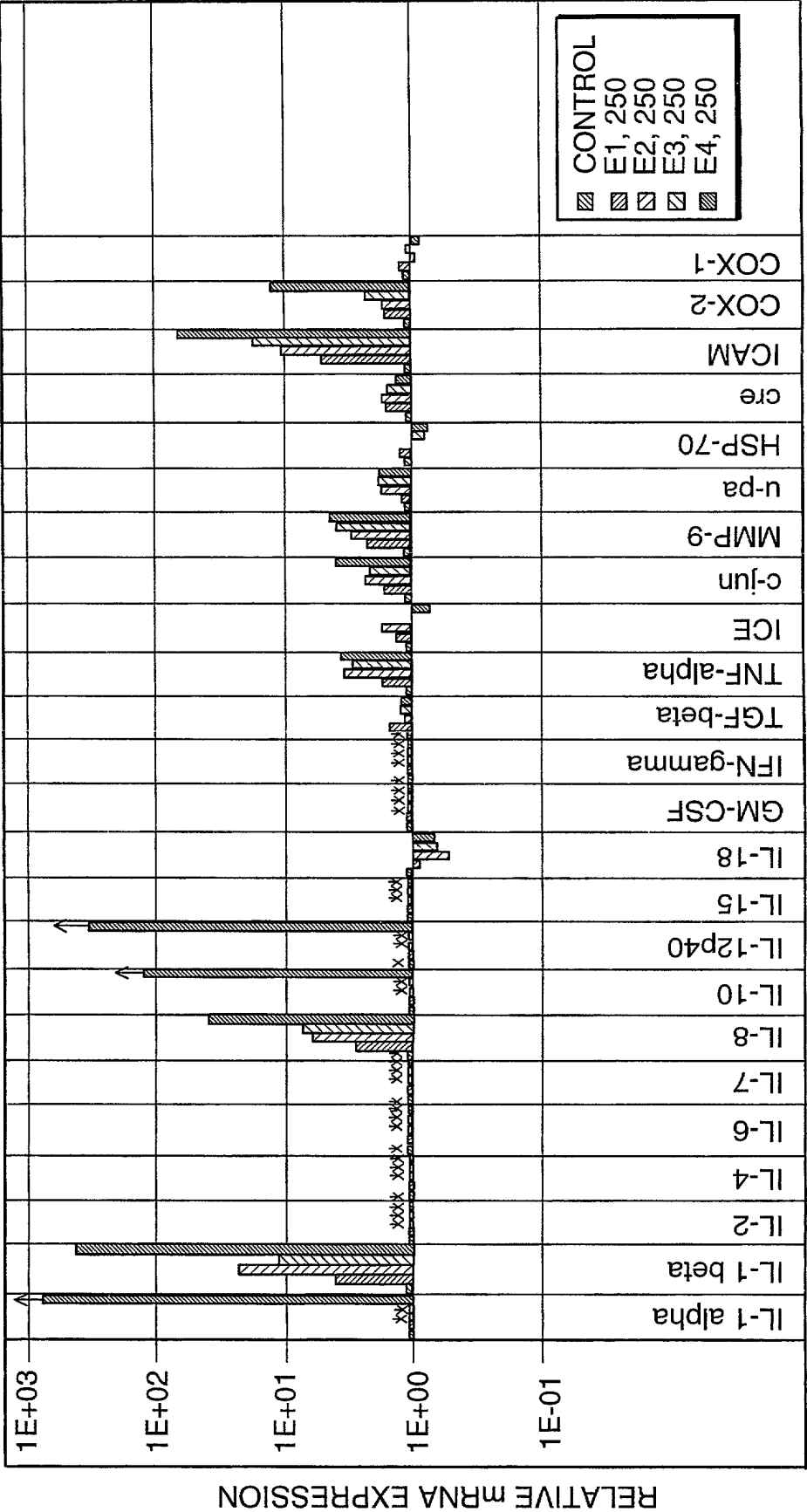


FIG. 25c

Figure 26. Inflammation Precision Panel Subset
Demonstrates Steroid Response in 3 Day Study

Figure 26(a)

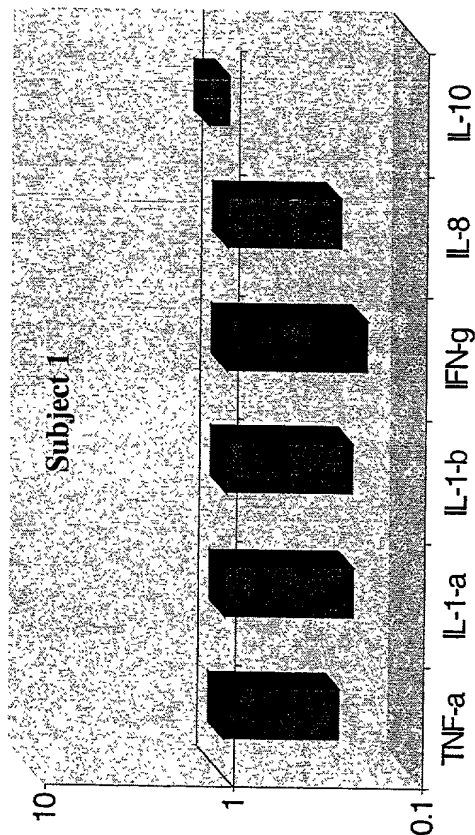


Figure 26(c)

Figure 26(b)

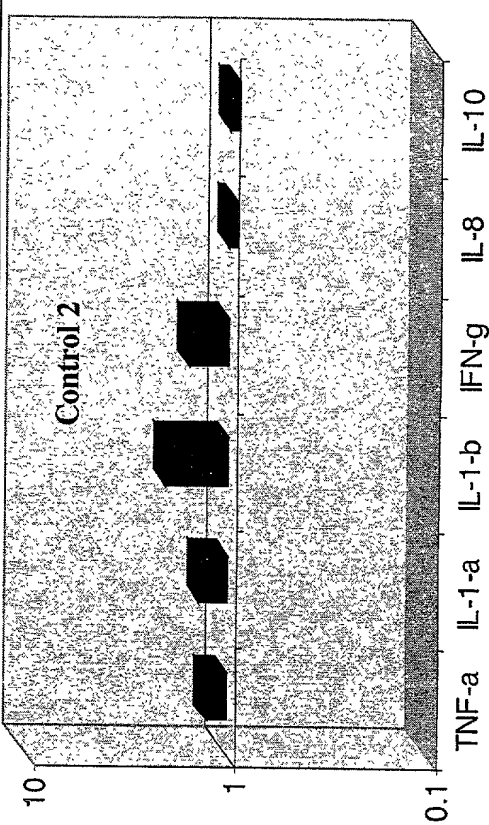
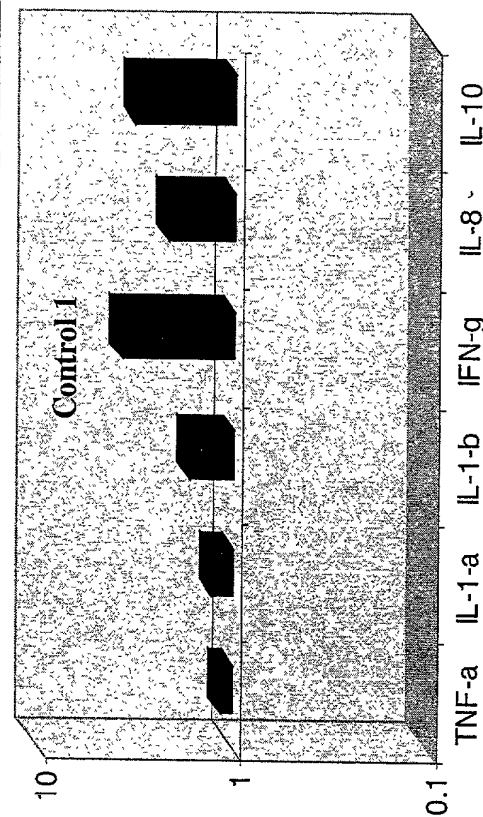


Figure 26(d)

Relative mRNA Expression

Figure 27. Comparison of Methylprednisone and High-Dose Ibuprofen in Patients Using Inflammation Precision Panel Subset

Figure 27(a)

Methylprednisone

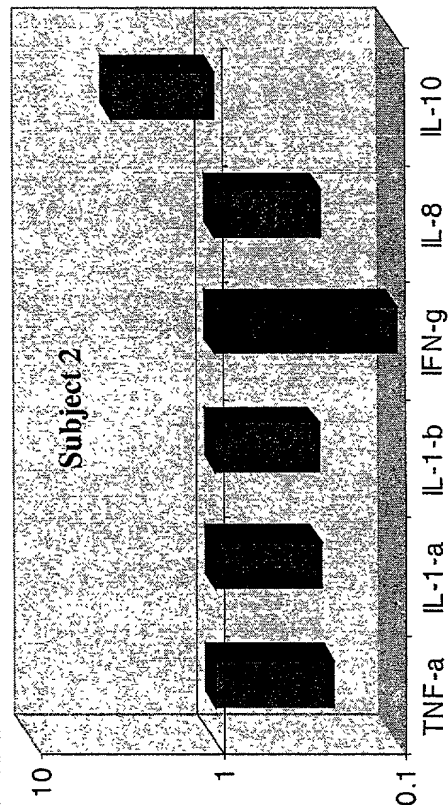
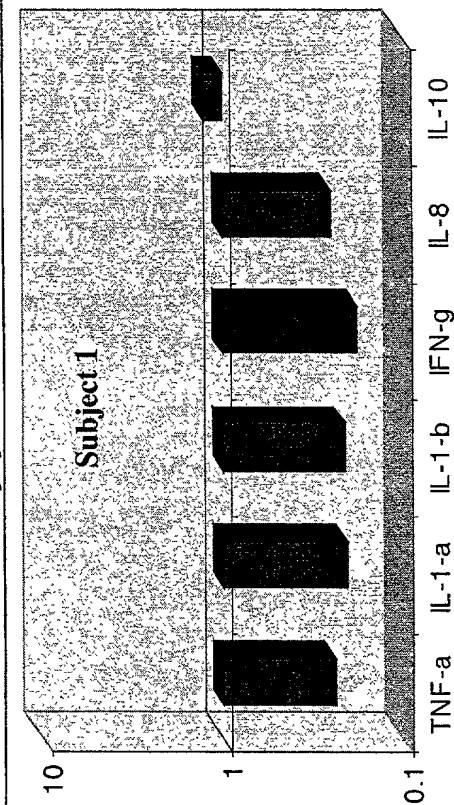


Figure 27(c)

Figure 27(b)

Ibuprofen

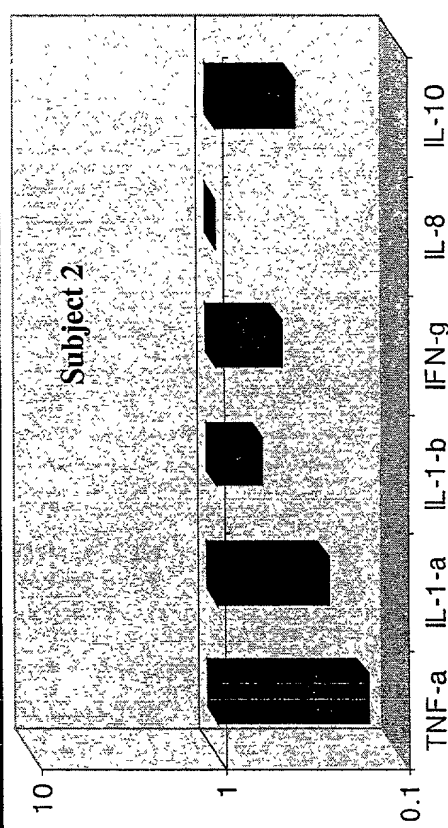
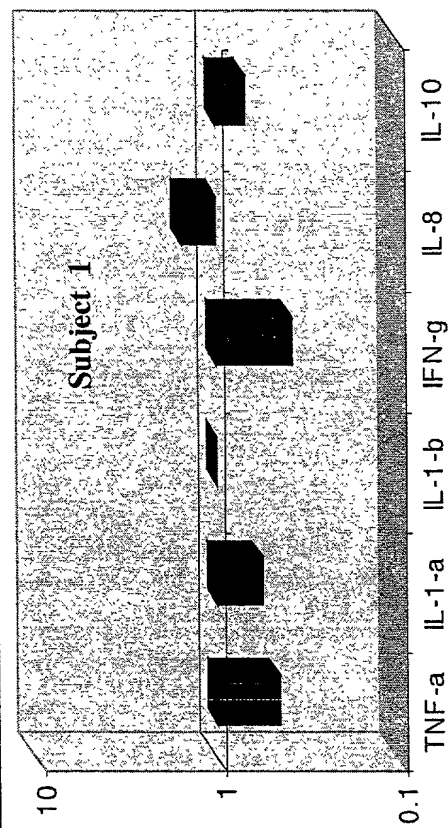


Figure 27(d)

Relative mRNA Expression

Figure 28. Inflammation Precision Panel Subset Identifies COPD Patients

Figure 28(a)

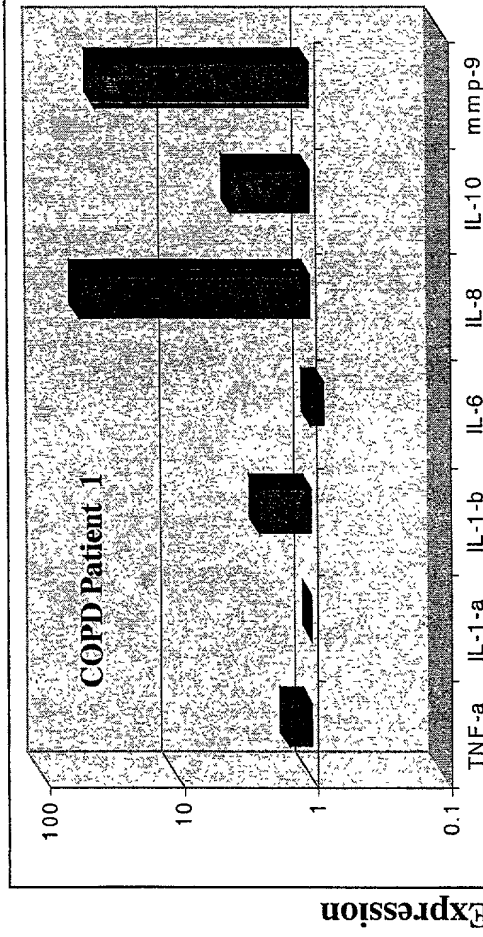


Figure 28(b)

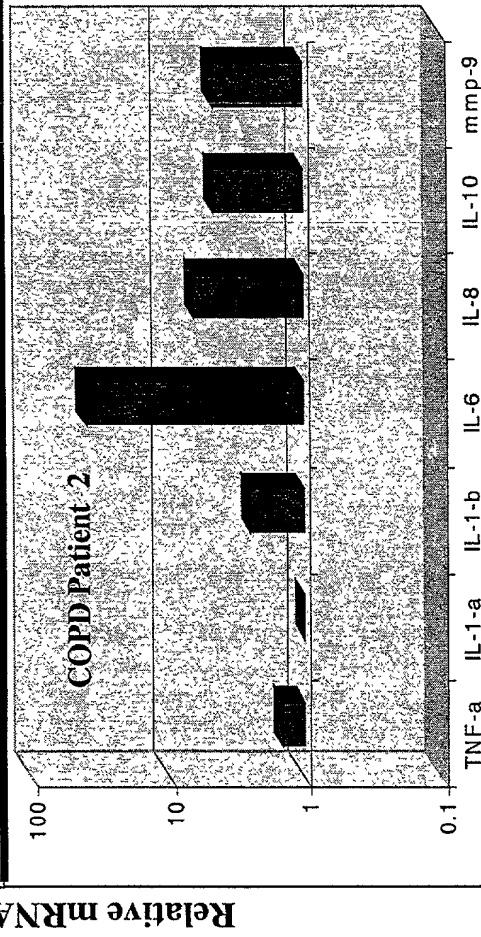
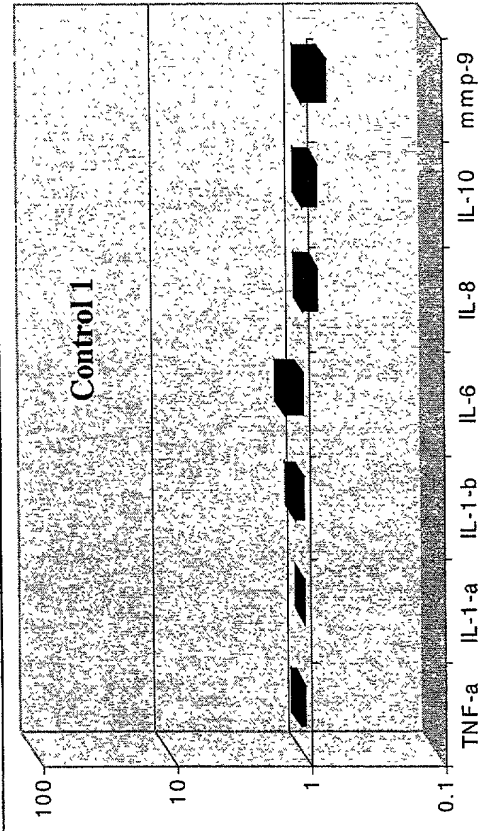


Figure 28(c)

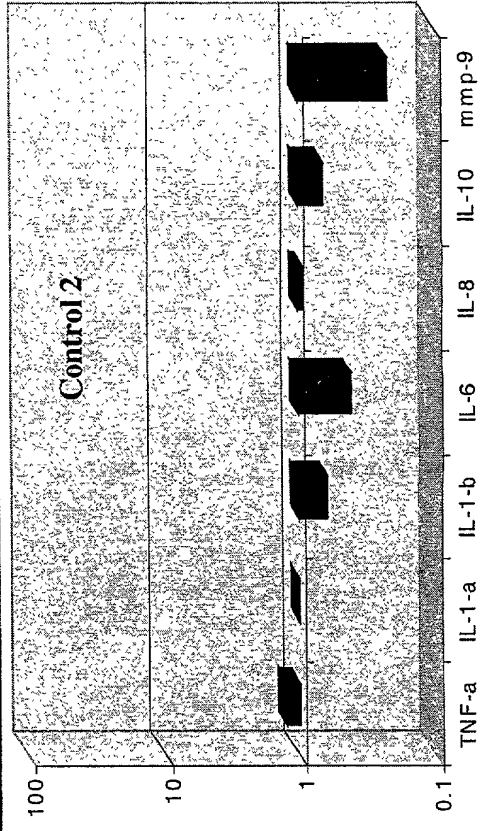


Figure 28(d)

Relative mRNA Expression

Figure 29(a). Comparison of Calibrated Profile Data Sets (Using Inflammation Precision Panel Subset)
After In-vitro and In-vivo drug exposure (Steroids) -- Study 1

August 1999
Subject 1JC

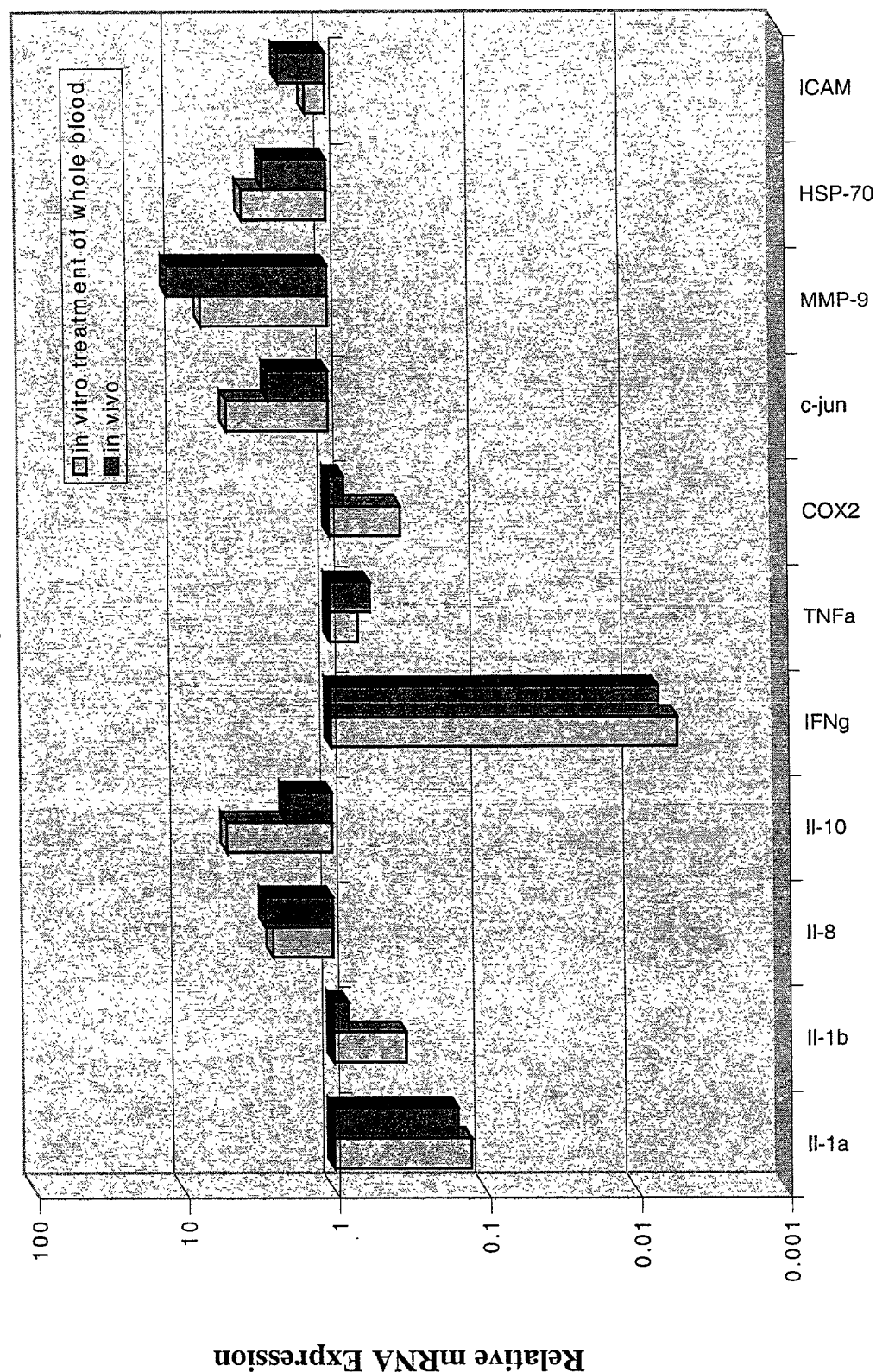


Figure 29(b). Comparison of Calibrated Profile Data Sets (Using Inflammation Precision Panel Subset)
After In-vitro and In-vivo drug exposure (Steroids) -- Study 2

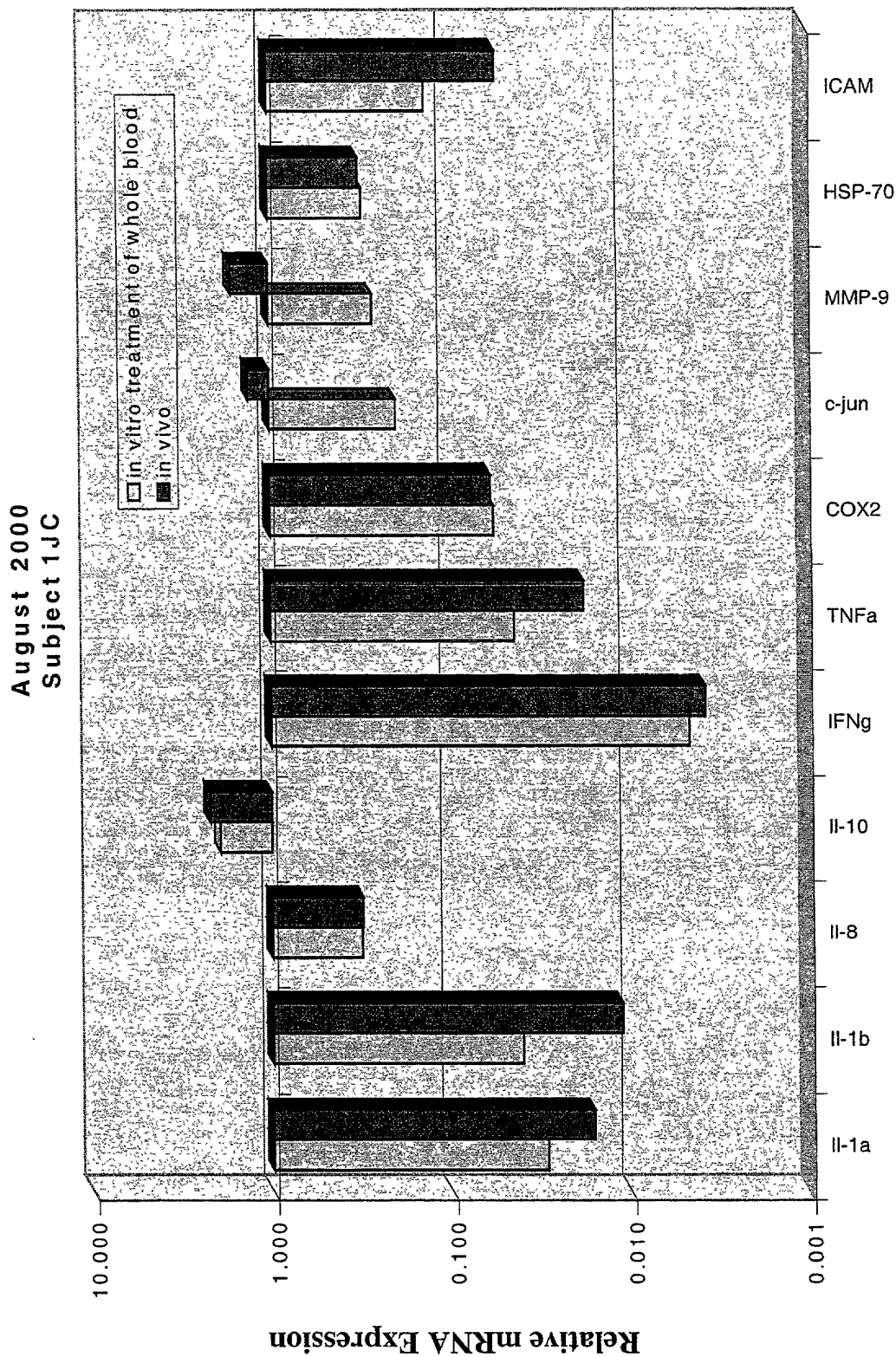
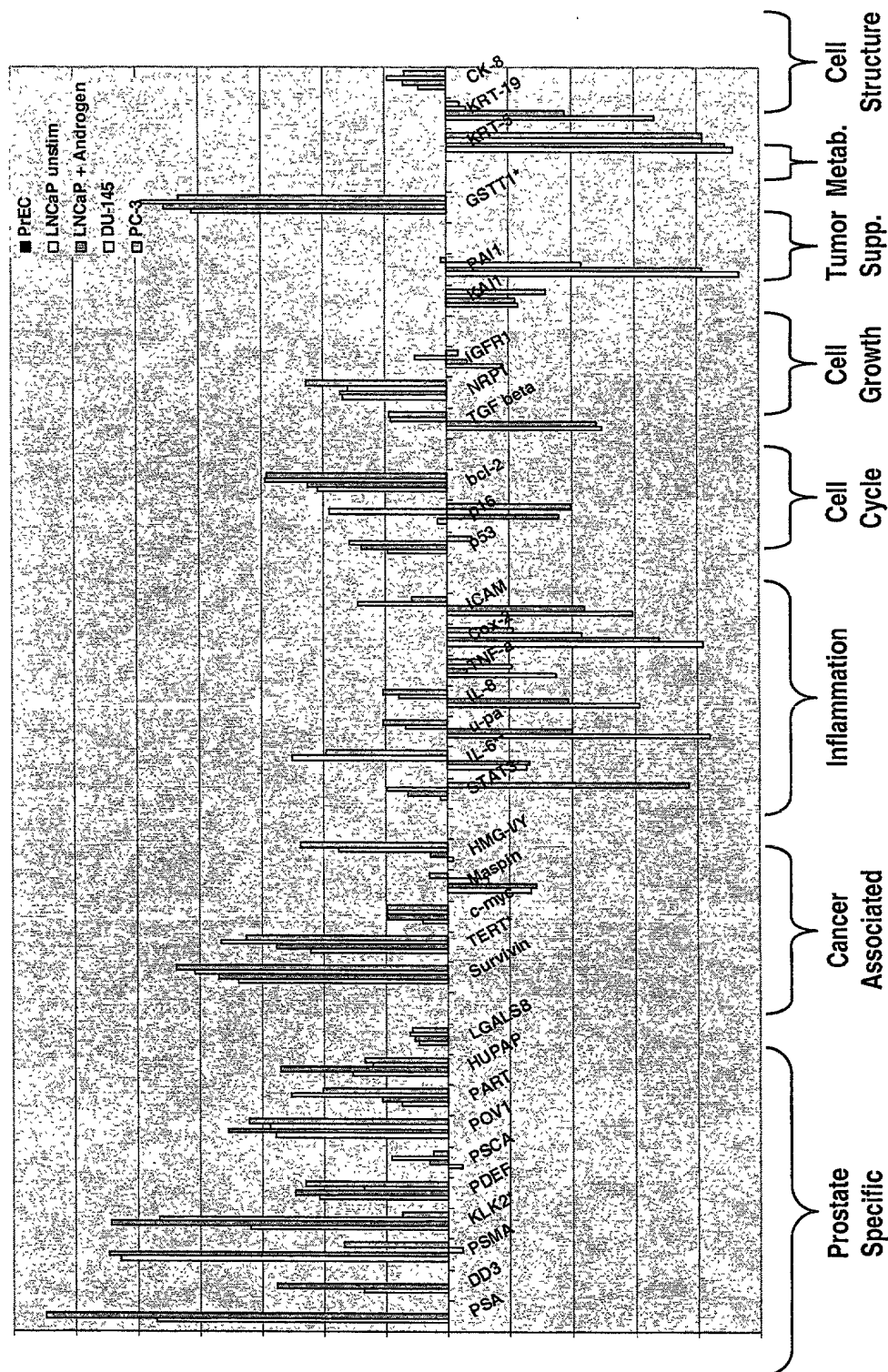


Fig. 30. Effect of different agents evaluated using a subset of the Precision Prostate Panel, and showing broad functions of panel constituents



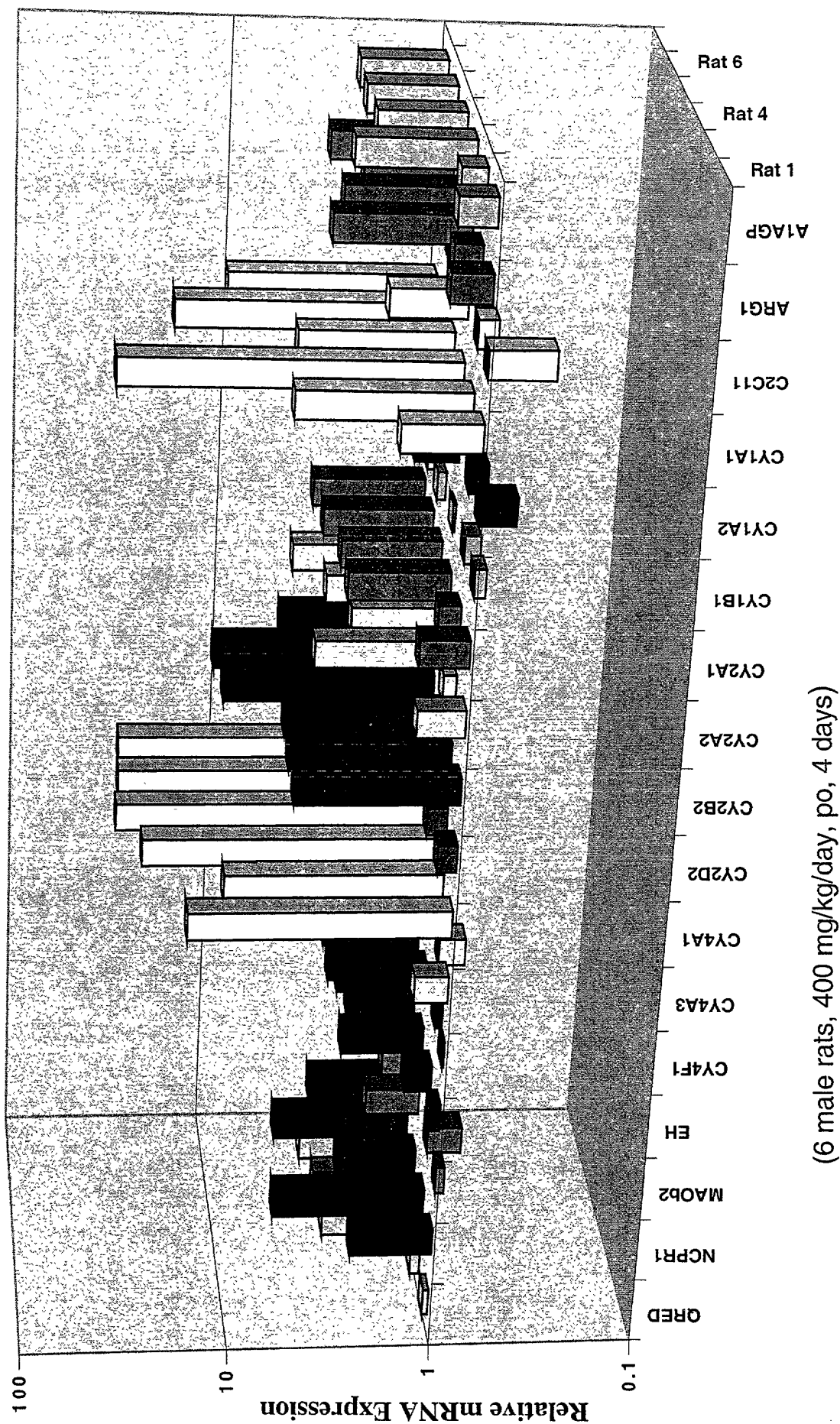


Fig. 32. A metabolism Precision Panel differentiates drug responses in rats.

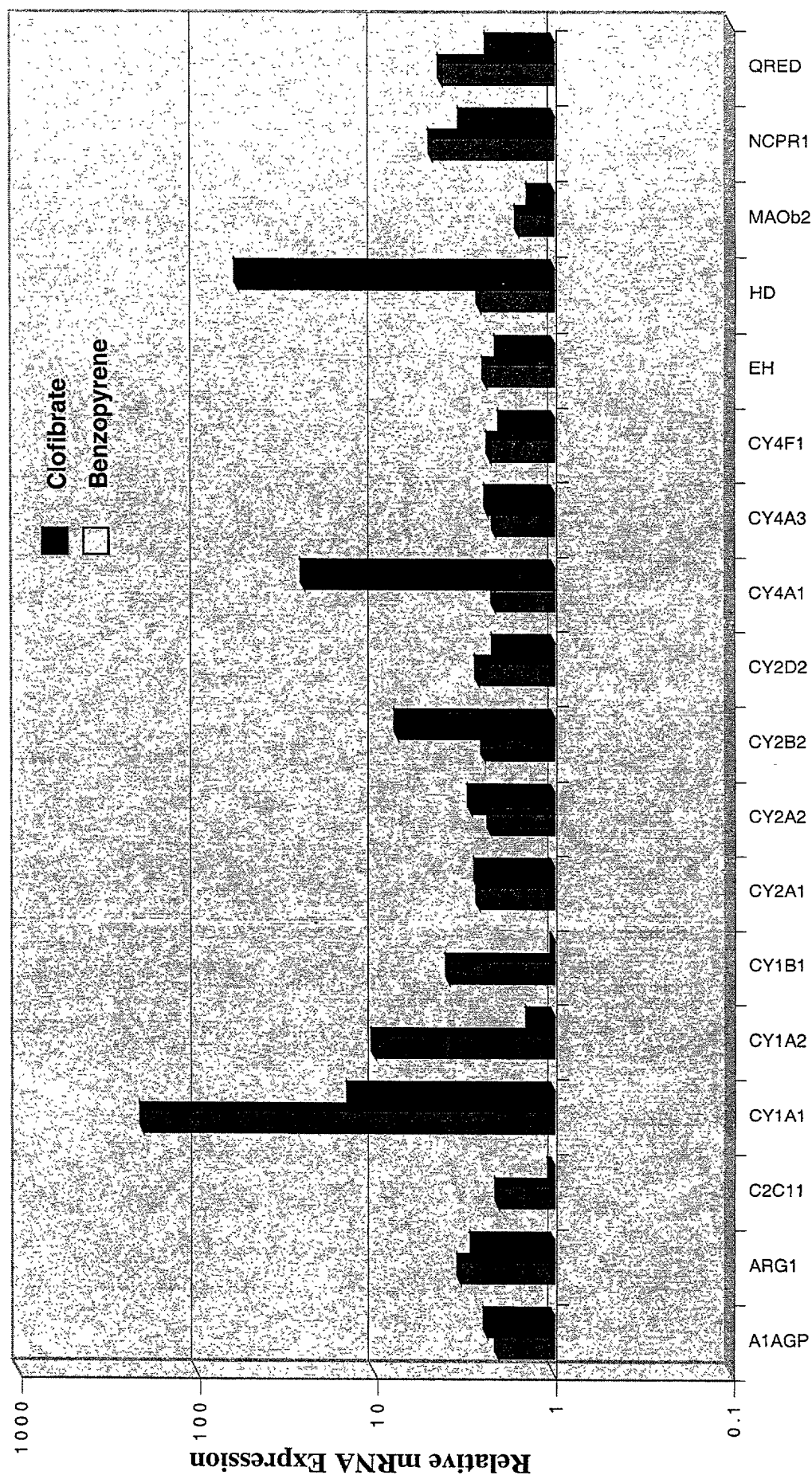


Fig. 33. A combination of the skin/epithelial and vascular precision panels show the effect of administration of a stimulant.

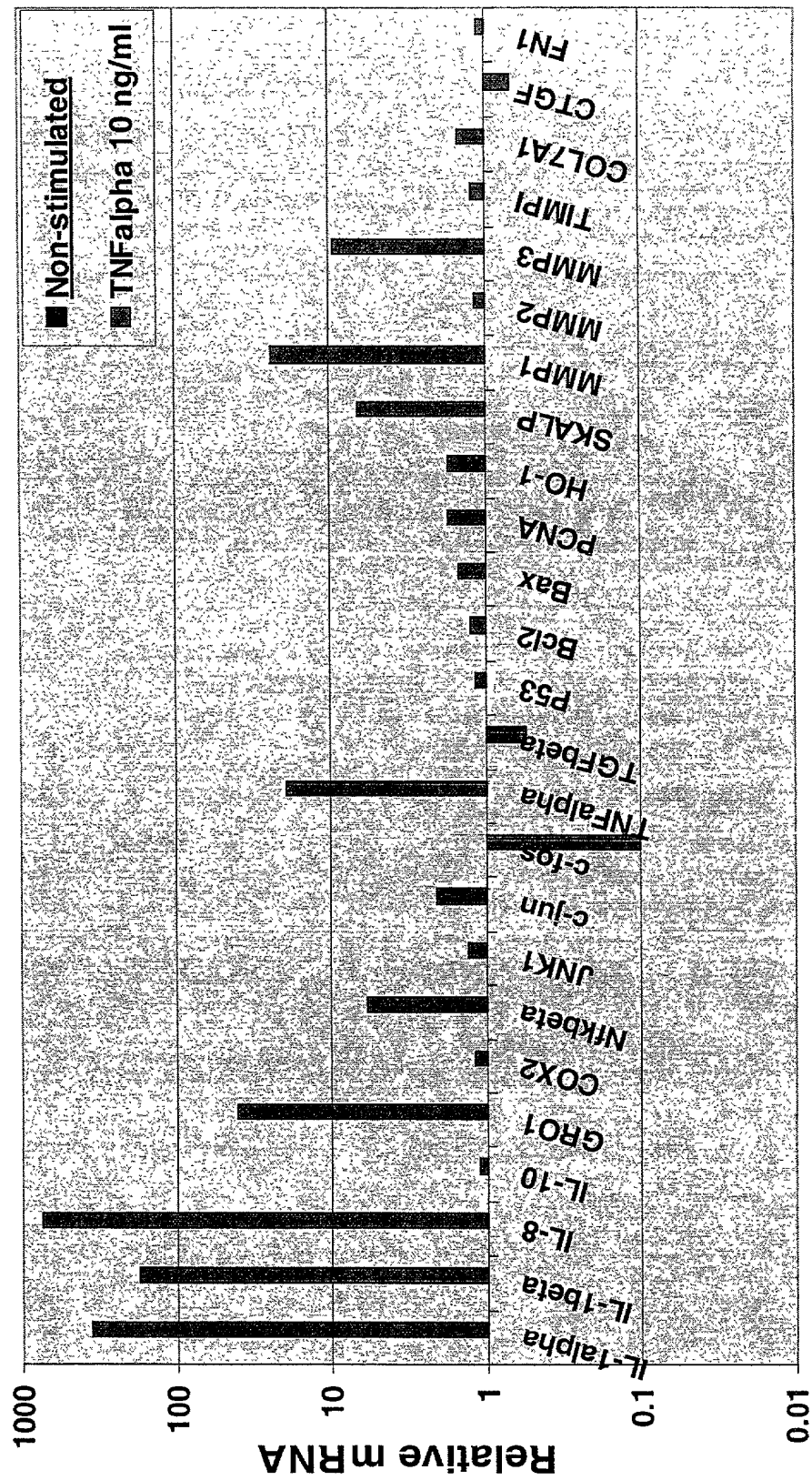


Figure 34: Example use of the human liver precision panel

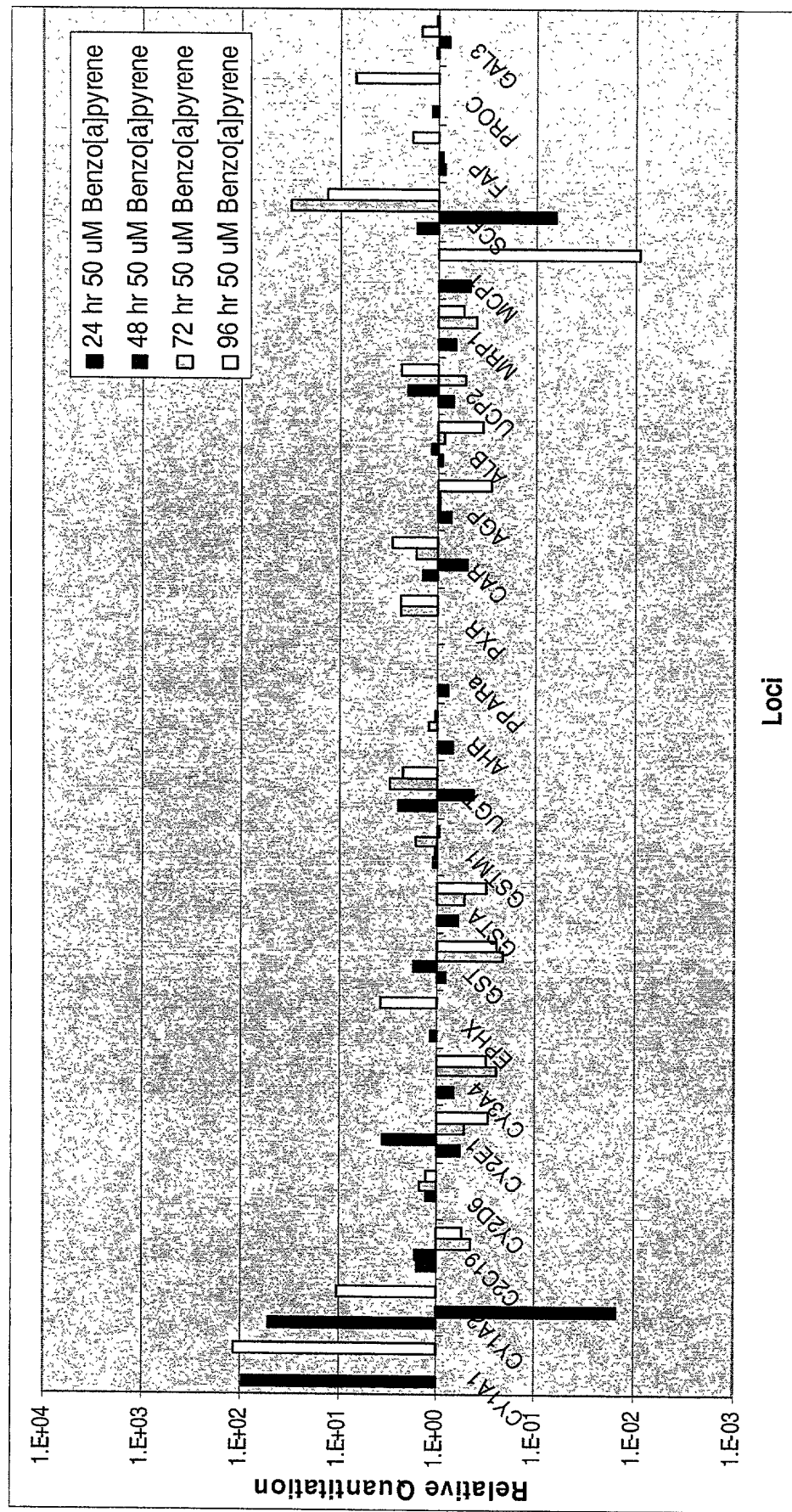


Figure 35. Human umbilical vein cells treated with TNF alpha and assayed on the vascular precision panel

HUVEC stimulated with TNF α , t = 24 hr

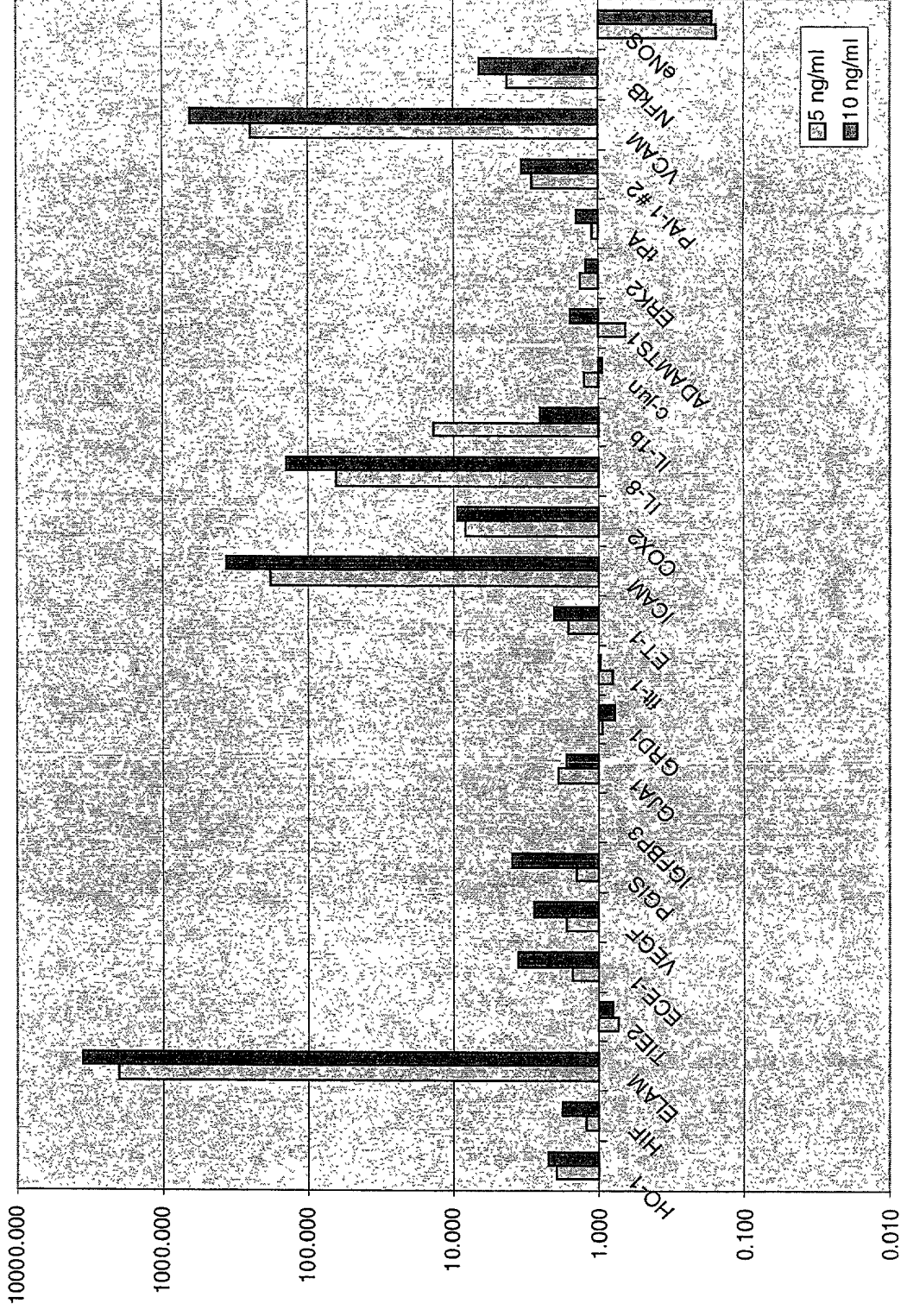


Figure 36. Assay of stimulated, human keratinocytes on the Skin Precision Panel

